flamenco®

Nursecall: by Tunstall

Technical Manual

All the reassurance you need

Tunstall

The manual was prepared with due care, and all details were checked for their correctness. However, we cannot assume any responsibility form possible discrepancies or incomplete information.

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We reserve the right for implementing technical changes.

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1. Safety

You are strongly advised to carefully study this chapter before starting to work at the nurse call system.

About this chapter

The Flamenco products have been designed and produced according to the latest state-of-the-art. Nevertheless, potentially dangerous situations may occur during installation, modification or de-installation of the system or of its components if the executing persons on-site act in a non-professional manner, or if pertinent safety instructions are ignored. Non-compliance with general and special safety instructions may jeopardise the life and well-being of installation personnel or third persons, and such misbehaviour may lead to damage to system components and other equipment.

Information in this chapter is of general nature. Special and more detailed safety instructions are presented in the various chapters when safety-hazardous work details or processes are described.

Organisational measures

Electrical systems shall be installed, modified, serviced and maintained by authorised specialists of the trade only. Among others, these are personnel from the local electric power companies and electricians who are listed on their roster. The registered electrician shall contact the power company to formally request the commissioning of any new electric installation. As such, electric installation personnel shall be responsible for the safety and correct function of the relevant electric systems.

Commercial users of electric installations shall arrange for regular servicing and maintenance of the respective electric equipment. Users and operators shall observe the legal aspects as final responsibility rests with themselves. Any work at the electric system and installation must be executed by trained and authorised specialists of the trade.

The technical manual addresses the specialists of the electric trade.

Before starting any installation work, carefully study this manual - with particular attention to the chapter on “Safety”. Later on, i.e. while working at the system, it will be too late!

Keep this manual and any further documents which you may need readily available during the installation work and whenever effecting any service or maintenance work at the system.

Comply with all generally applicable laws as well as special rules and directives for accident prevention and environmental protection.

All parts and any equipment used for the installation shall comply with the technical demands and criteria set forth by Tunstall GmbH. This is always ensured when using original parts.

Symbols used in this manual

When studying this manual, you will come across a number of symbols which direct your attention to specific issues:

WARNING ! This symbol refers to actions which may incur personal injuries (Danger to life or well-being).

WARNING ! This symbols refers to actions which could endanger persons through high voltage or electric current.

Components sensitive to electrostatics! This symbol indicates components which are sensitive to electrostatics. Avoid any contact with these components as this may induce damage to such component.

CAUTION! This symbol refers to actions which may incur damage to the system or components due to high voltage or electric current.

NOTE! Here you will find supplementary and otherwise useful information.

In the text passages you will come across symbols which always have the same meaning:

- A square before the text means:
  “This is part of a listing”
- An filled-in circle in front of a text means:
  “This must be done.”
- An open circle in front of a text means:
  “This is the result of an action.”

Use as designed and directed

All Flamenco products are designed for use in the nurse call system, and here again, only in the manner as described in this technical manual. Any other application of use shall be considered as not authorised, and Tunstall GmbH will not accept any liability for damage resulting from any non-compliance with this rule.

General safety rules

- Closely observe all safety instructions from this manual, pertinent national rules and directives for accident prevention as well as the owner's / user's internal rules and procedures for safety at work and while handling or operating the system.
- Avoid any safety-hazardous work methods.
- Before starting to work, personnel shall make themselves familiar with the working environment which includes a survey of obstacles in the working and operating area.
- Use only original fuses with the correct rating for the specific application.
- Work should be executed in an electrically safe status, i.e. no residual voltage.
- If work details must be executed at installed components they must be free from residual voltage. Before working at such parts, use applicable instruments to check the electric status.
- If work must be executed at electrically live components, a second person should act as a safety attendant who in case of an emergency can turn the main switch off.
- In case of any fault or malfunction, shut off the electrical power. Do not continue to work until the fault has been corrected.
- Protect all system components from direct wetness.
- The various components of the Flamenco system are fitted with elements sensitive to electrostatics. Any discharge of electrostatic energy may damage such parts. Therefore, avoid any direct contact with these electrostatically sensitive components.
- For further information regarding the installation and functional check refer to DIN VDE 0834.

Technical standards

Close observe the following standards which are applicable to nurse call systems:

- **DIN VDE 0834**: Nurse call technology; Installation and operation in hospitals, care homes and prisons
- **ISO 11197:2004**: Special requirements for the safety of medical supply units
- **EN 60601-1**: Electric medical equipment, Part 1: General safety rules
- **EN 60601-1-1**: Medical electric equipment, Part 1: General rules for the safety of electric medical systems
- **EN 50081-1**: Electromagnetic compatibility (EMC). Basic standard for interference radiation

- **EN 50082-1**: Electromagnetic compatibility (EMC). Basic standard for resistance to interference
- **DIN VDE 0100**: Rules for the installation of high-voltage systems with nominal voltage up to 1000 V
- **DIN VDE 0107**: High-voltage installations in hospitals and other medical rooms outside of hospitals
- **EN60950**: Safety of installations for information technology

Also observe additional national rules for installations.

2. Necessary previous knowledge

System overview

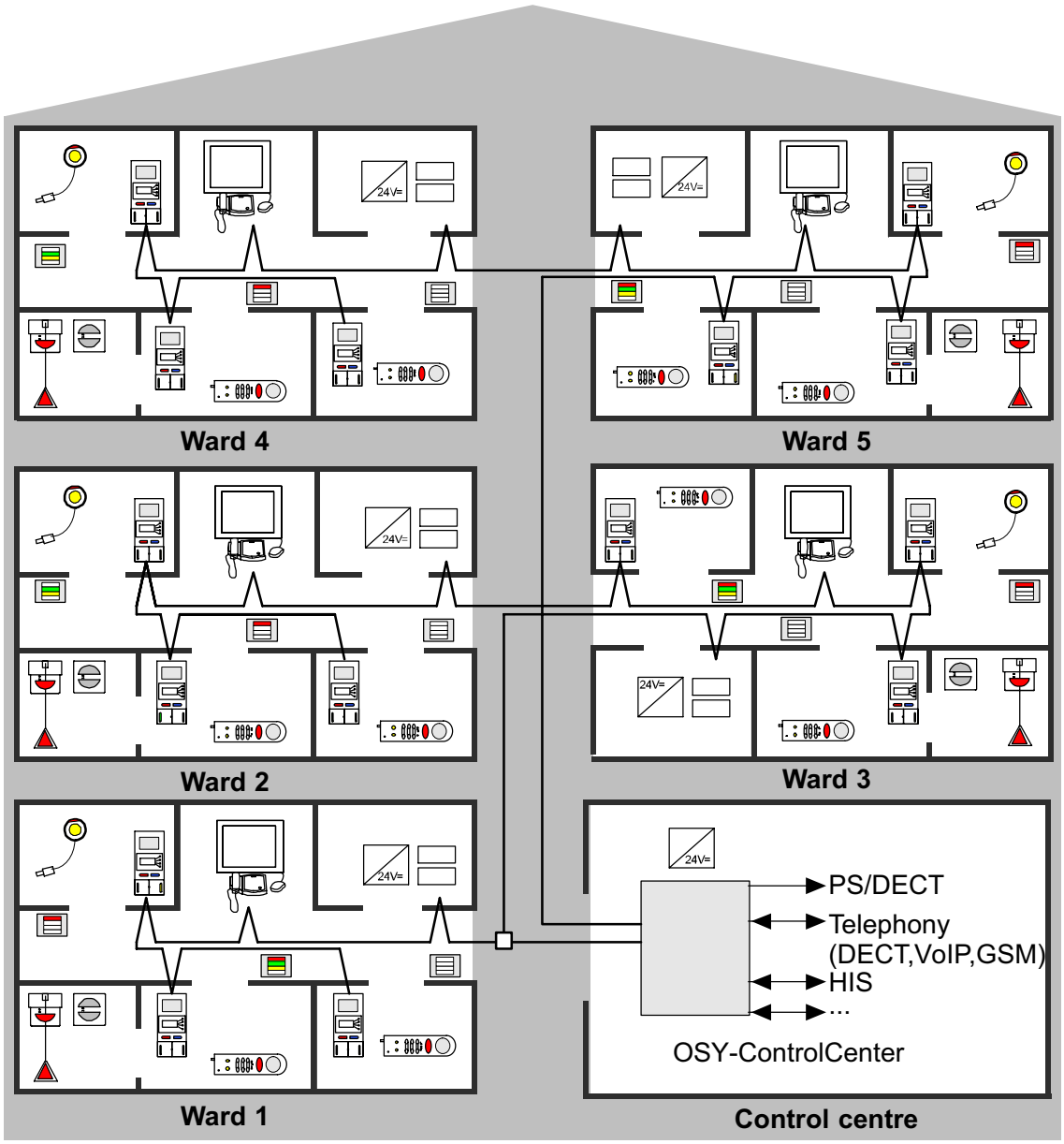


Fig. 1: System overview

System arrangement and layout

The nurse call system uses a bus system which comprises a group bus OSYnet and a room bus RAN. The group bus OSYnet links the individual rooms and potential interfaces in the ward. The room bus RAN links the equipment and devices in the rooms themselves.

System control is realised in the OSY-ControlCenter which monitors the data flow as well as all voice communication.

If the OSY-ControlCenter should fail or break down, decentralised OSYnet-SafetyControllers can takeover the control of the nurse call system. These controllers are fitted to ward's OSYnet group bus.

Decentralised power supply units provide the electric power for the system. Number of units and their location depend on the specific demand for electric power. Power for the OSY-ControlCenter is also provided via an external power supply unit.

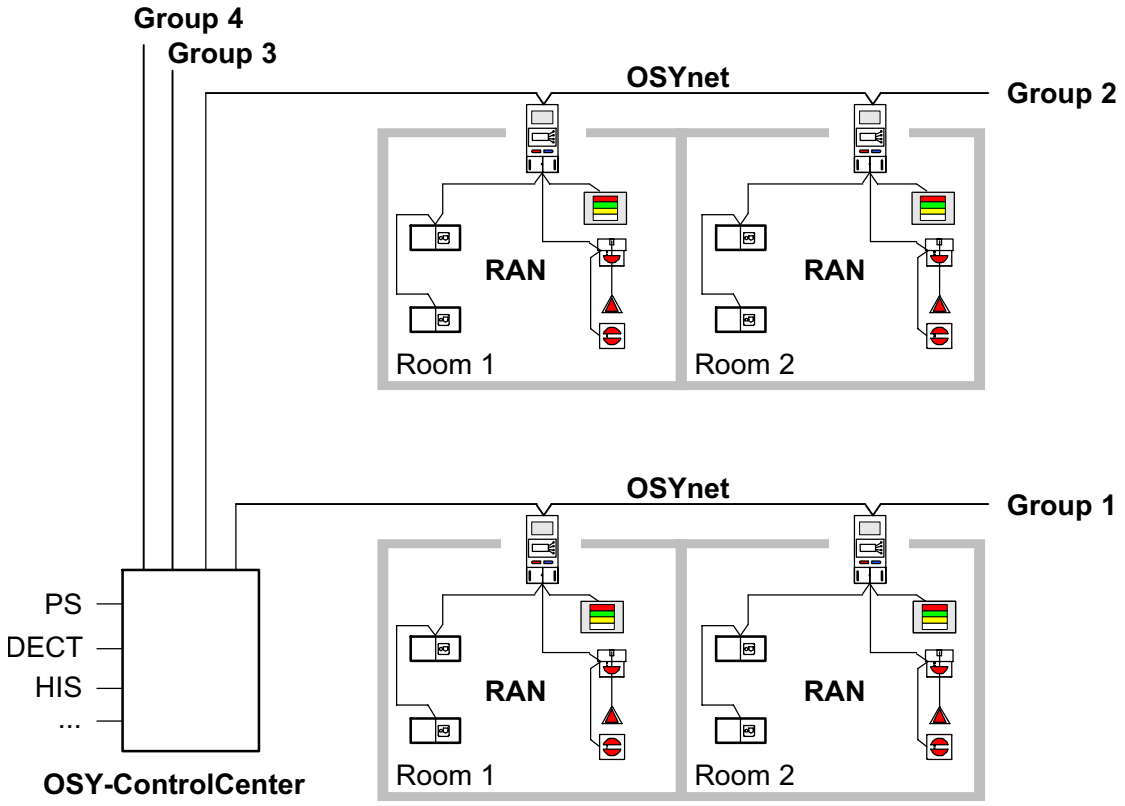


Fig. 2: System arrangement

Voice communication

Voice communication and data transmission are physically and logically separated. Two speech paths are standard for each group. When designed in segments, each group will feature more than two speech paths, however, this arrangement requires special planning and installation.

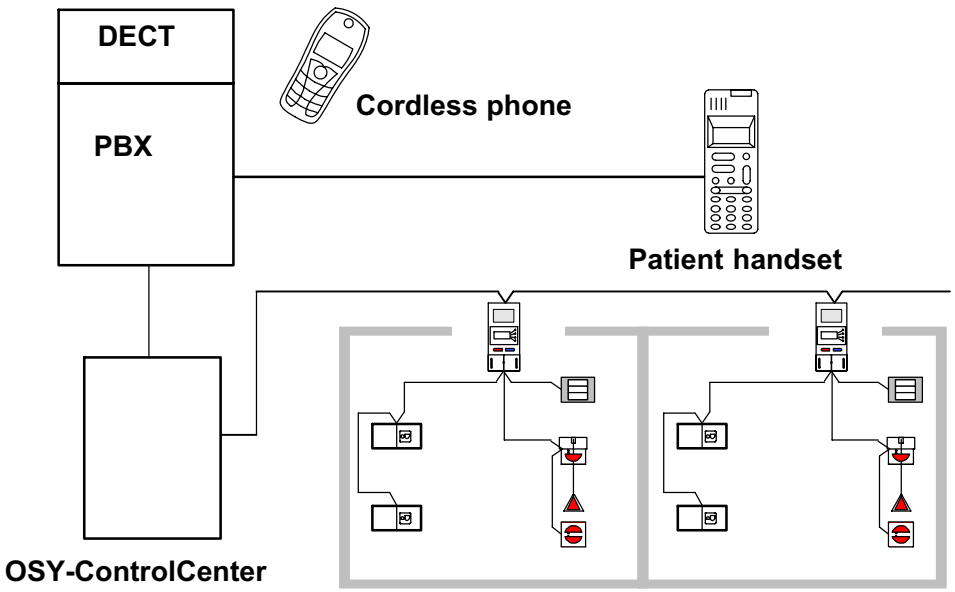
The system's speech cable links the system-inherent voice terminals: ComTerminal, patient handset, ComStation^{PC}, ComStation^{CT}, ManagementCenter^{PC}, ManagementCenter^{PC} Push buttons as well as the announcement loudspeakers as separate units or integrated into the corridor displays.

Non-system speech paths

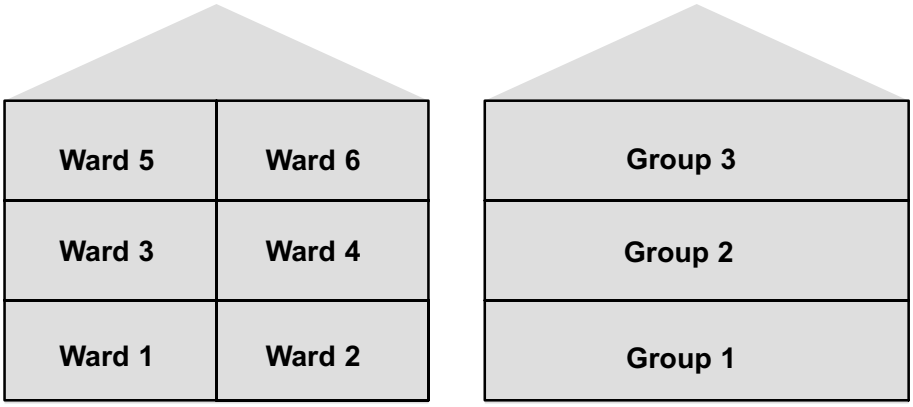
Aside from the voice communication within the call system itself, voice communication may also be realised using other devices: ComStation^{TEL}, patient telephone, cordless phone (DECT or GSM mobile) etc. Interfaces to the PBX are provided in the OSY-ControlCenter.

These devices can be used as virtually fully equivalent with the system's voice communication devices. Their use may be exclusively or mixed with the other units. However, planning and realisation of such solutions require detailed know-how of the technology involved, the operational implementation and subsequent functions and organisational procedures.

For the installation refer to and observe the specific manufacturer's documents.



Wards and groups



Organisation of the hospital **Flamenco technology**

Wards are the organisational entities in hospitals. Therefore, a ward is an entity also for the nurse call operation in Flamenco nurse call systems. However, the physical structure of Flamenco call systems is almost independent of this organisation.

In the development of the Flamenco technology, the organisational structure of the wards was decoupled from the technical structure. Rather than the ward, the 'physical' group is an entity- technically speaking, that is. Each group is linked to a group bus OSYnet and is controlled from a control unit (acting as a building block of the central OSY-ControlCenter). One group may comprise several wards. And what is more, wards may be 'distributed' onto several groups.

This group-oriented arrangement allows for a substantial reduction of the necessary control units. The number of these control units and groups, respectively, is not determined by the number of wards but rather by the building structure and by the desired fail-safe rating. A project engineer from Tunstall GmbH will calculate the optimum control arrangement for every hospital.

This independence from the physical structure is a considerable advantage as there is no need to always keep in mind the eventual organisational structure when planning for wiring and equipment for the installation. The system can be amended at any later date to meet new organisational structure, and this can be realised without dealing with the physical structure.

Ward = Organisational entity

Group = Physical entity

Wiring

Data cables, e.g. CAT.5 or commercially available communication cables IY(ST)Y... can be used for group bus OSYnet.

Power supply for all components is realised with a separate net (ring system), also with commercially available cables, e.g. NYM 2x2.5 mm^2. On average, one power supply unit is required for every 25 rooms.

The room bus RAN is also realised with commercially available communication cables IY(ST)Y...

Maximum cable length for the group bus OSYnet is 1000 m. In exceptional circumstances, it may be extended for another 1000 m. In this case, an OSYnet-Gateway (order no. 77 4001 00) is required.

System limits

A physical group may comprise up to 110 bus users, as there are:

- ComTerminal ***)**
- ComStation^{CT}, desktop unit ***)**
- Corridor display Alpha 16
- Corridor display Alpha 16, double-sided
- ComStation^{PC}
- OSYlink-Door entry speaker
- OSYlink-Group lamp
- OSYlink-Universal
- OSYlink-Announcement
- OSYnet-SafetyController

***)** Quantity of ComTerminals + quantity of ComStation^{CT}, desktop units = maximum 63 per physical group

Configuration / SystemOrganizer

A special software, the SystemOrganizer (order no. 77 0750 00) is used to centrally configure the complete nurse call system, including all terminal devices.

The SystemOrganizer is applied for the whole system administration, from inital order processing via general definition and planning for the nurse call system to later customer service work on location or via partner. The comprehensive software also permits remote access to the system with the possibility for configuration, servicing and fault analysis.

Users are allocated to several user groups, and specific access rights can be defined for each group.

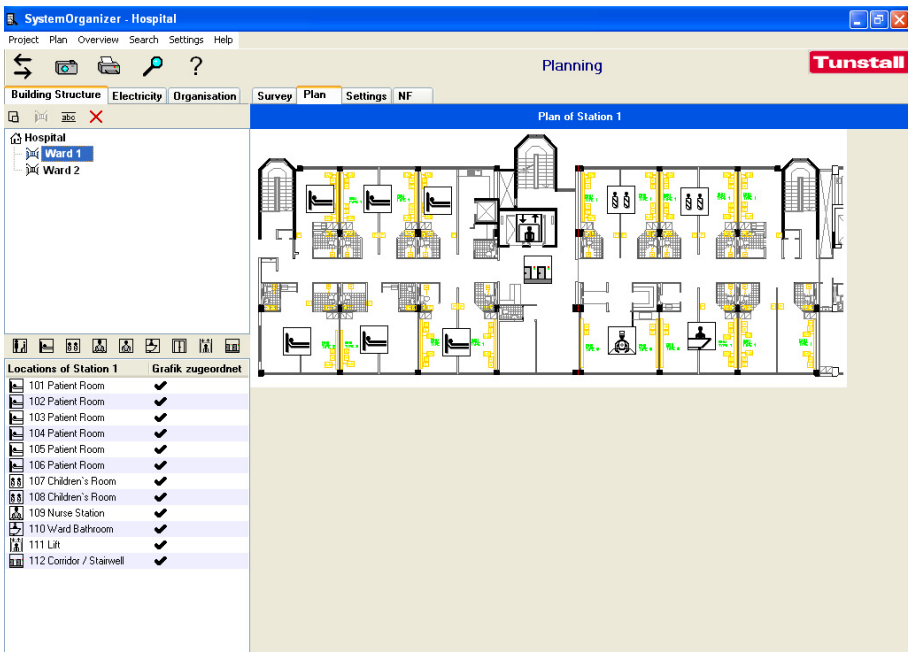
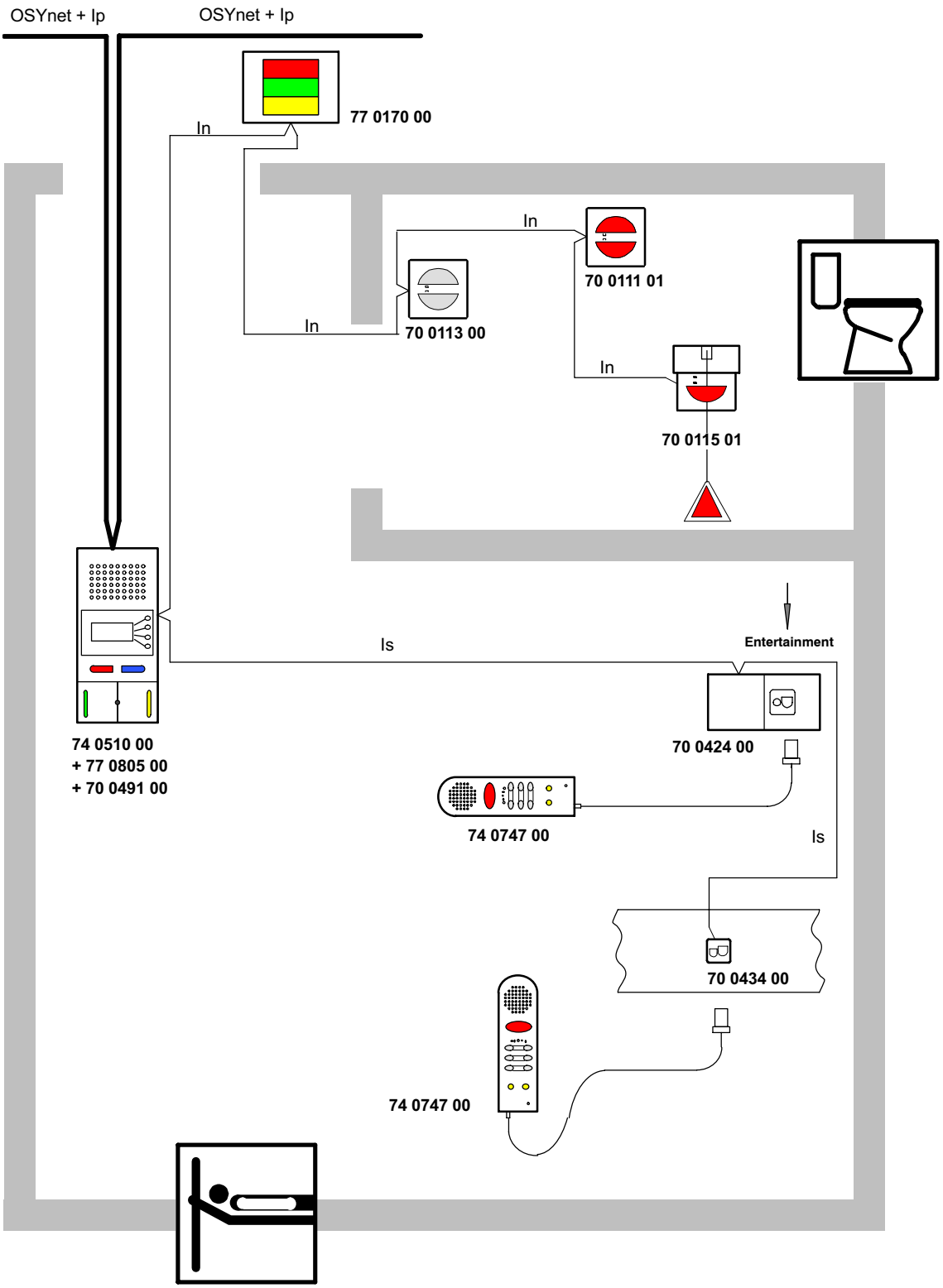


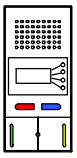
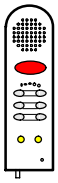
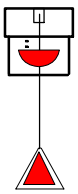
Fig. 3: SystemOrganizer (order no. 77 0750 00)

3. Room types

The following pages present various types of rooms showing examples of the system and equipment installed.

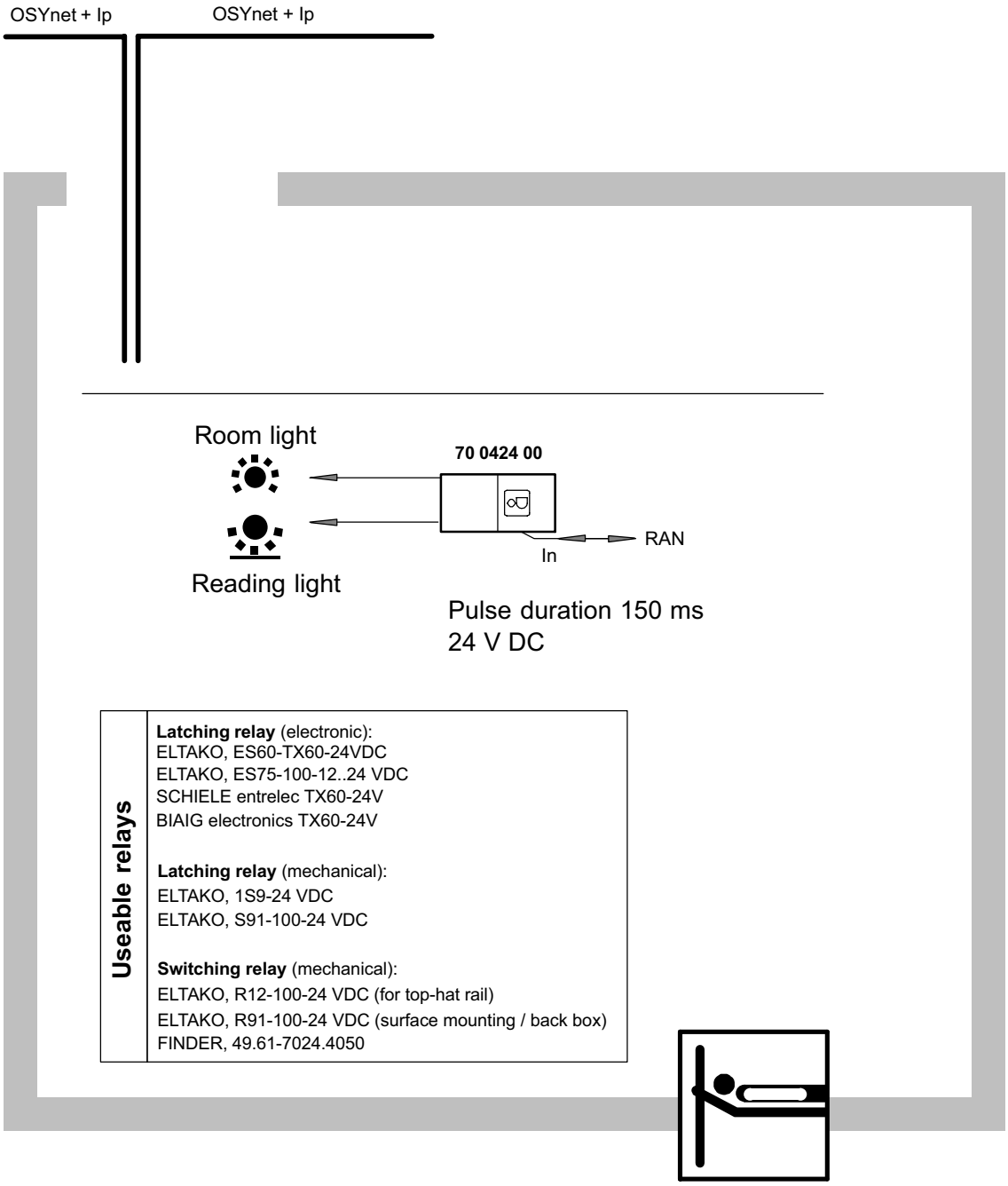
Patient / resident room



For each room		
	ComTerminal	74 0510 00
	OSYlink-ComTerminal	77 0805 00
	Connection socket ComTerminal	70 0491 00
	Room lamp for display of all types of calls and presence states: e.g. Room lamp, 3 sections optional with additional individual indication for WC call / WC emergency call: e.g. Room lamp, 4 sections	77 0170 00 77 0170 10
For each bed		
	Connection socket combi *or* Connection socket combi, bedhead unit	70 0424 00 70 0434 00
	Patient handset	74 0747 00
In WC room		
	Where additional indication for WC call / WC emergency call is desired, e.g. as directional indicator in front of the WC: Room lamp code blue/cardiac alarm, WC	77 0170 01
	Cancel switch for WC call / WC emergency call e.g. Cancel switch/WC wp	70 0113 00
	There is a selection of call devices for use at or near wash basin, WC, shower , bath tub: Call switch/WC wp Pull cord call switch/WC wp Pneumatic call switch/WC	 70 0111 01 70 0115 01 70 0106 01
In the seating area (optional)		
	Call switch, e.g. Call switch wp	70 0111 00

Necessary accessories: Refer to table on page 39.
Cable legend: Refer to page 41.

Patient room: Light switching



Useable relays

Latching relay (electronic):
ELTAKO, ES60-TX60-24VDC
ELTAKO, ES75-100-12..24 VDC
SCHIELE entrelec TX60-24V
BIAIG electronics TX60-24V

Latching relay (mechanical):
ELTAKO, 1S9-24 VDC
ELTAKO, S91-100-24 VDC

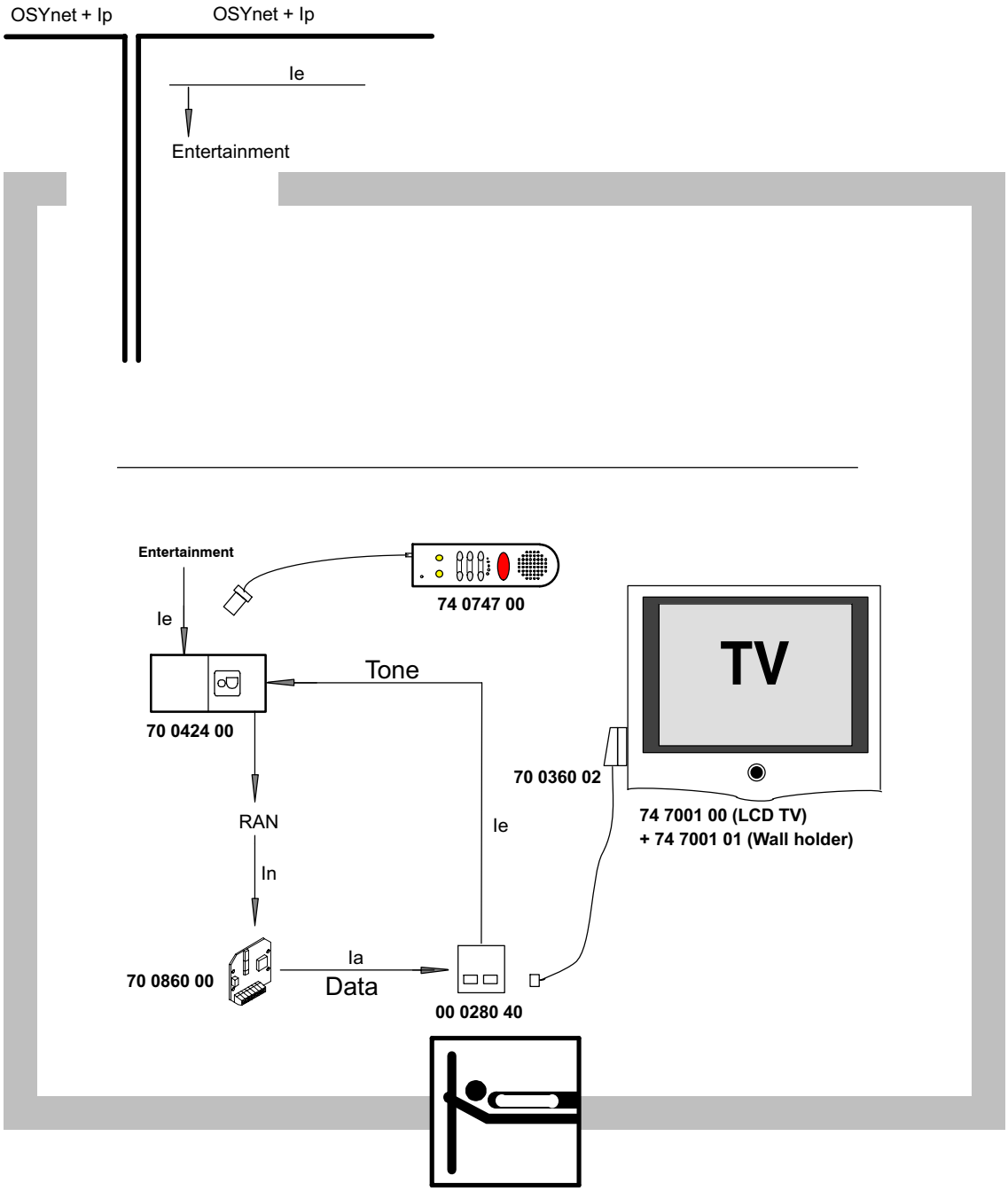
Switching relay (mechanical):
ELTAKO, R12-100-24 VDC (for top-hat rail)
ELTAKO, R91-100-24 VDC (surface mounting / back box)
FINDER, 49.61-7024.4050

Connection socket combi (70 0424 00): Room light and reading light

Connection socket combi bedhead unit (70 0734 00): Room light and reading light

Connection socket with call switch (70 0171 03): Room light or reading light

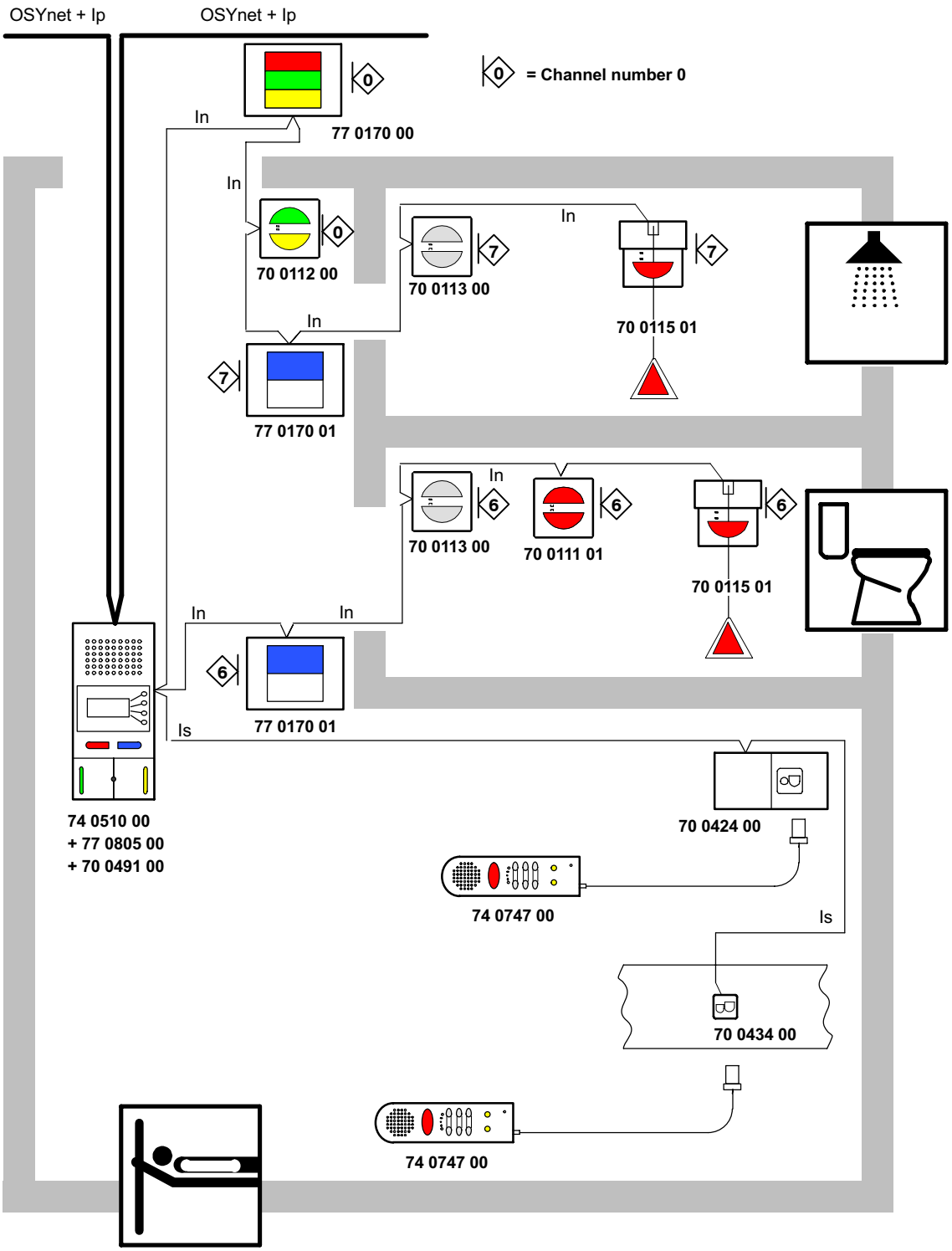
Patient room: TV connection



Connection socket combi (70 0424 00) and connection socket combi bedhead unit (70 0434 00) permit TV control in combination with patient handset (74 0747 00) and RAN interface TV (70 0860 00).

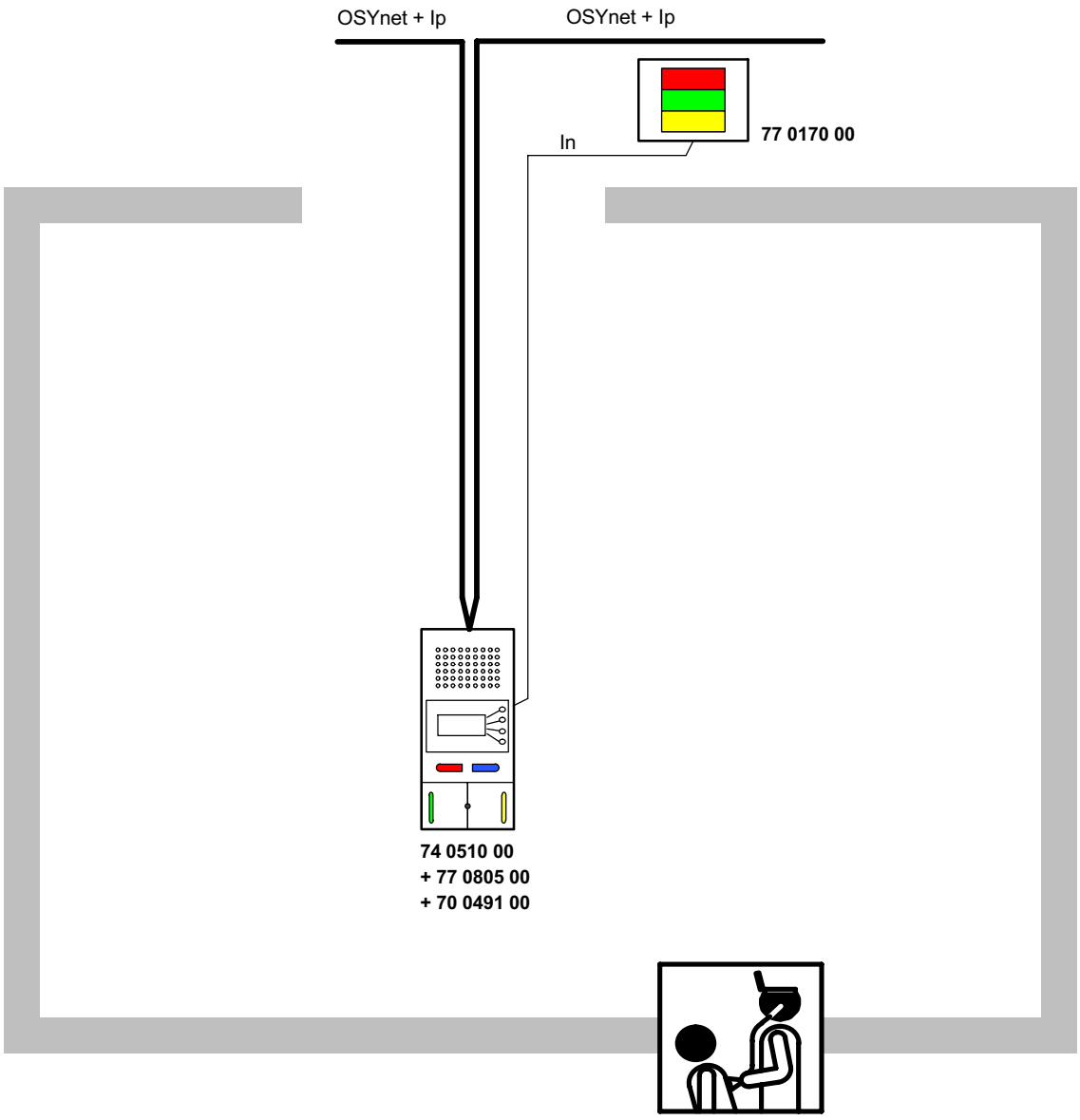
Interface and functions depend on the control system used.

Patient room: Shower and WC, separate



Separate call cancelling per cubicle. Common room lamp (77 0170 00) in the corridor and **separate** room lamps (77 0170 01) in the room (channel coding) with extra indication for each cubicle. Max. 7 channels per ComTerminal.
Channel numbers 1 - 5 can be used for bed numbers 1 - 5.

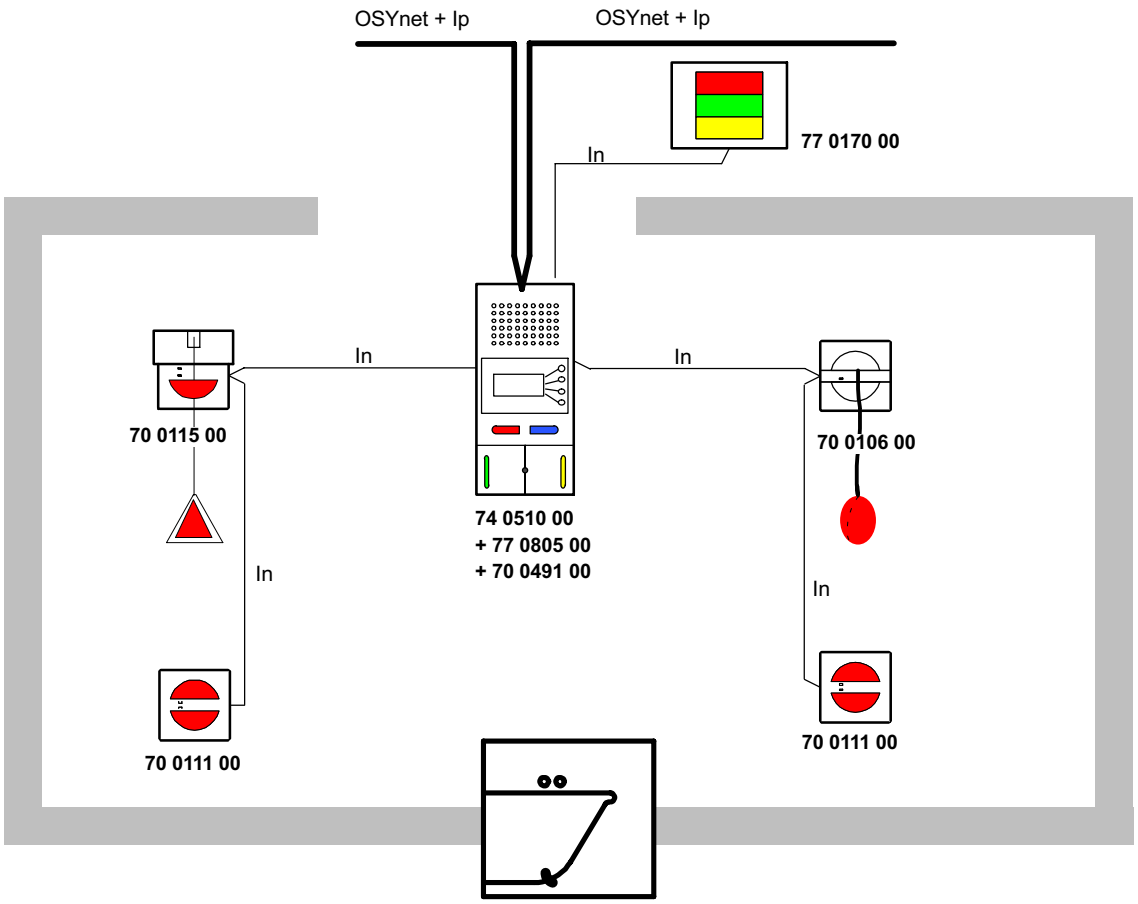
Function room

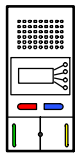
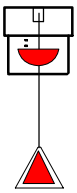


For each room		
	ComTerminal	74 0510 00
	OSYlink-ComTerminal	77 0805 00
	Connection socket ComTerminal	70 0491 00
	Room lamp for display of all types of calls and presence states: e.g. Room lamp, 3 sections	77 0170 00

Necessary accessories: Refer to table on page 39.
Cable legend: Refer to page 41.

Ward bathroom

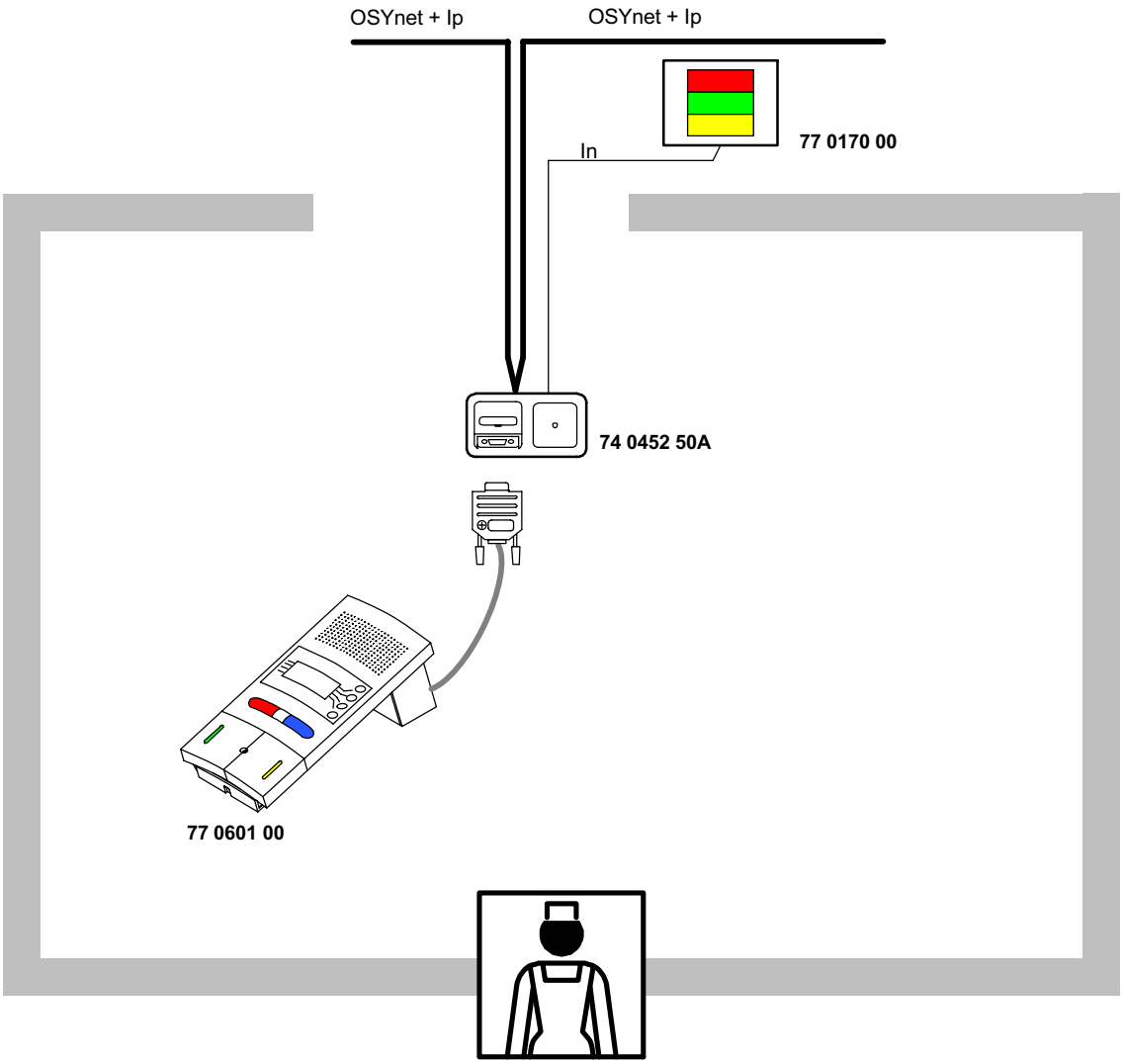


For each room		
	ComTerminal	74 0510 00
	OSYlink-ComTerminal	77 0805 00
	Connection socket ComTerminal	70 0491 00
	Room lamp for display of all types of calls and presence states: e.g. Room lamp, 3 sections	77 0170 00
Each location bathroom / WC		
	Pull cord call switch wp, suitable for shower, WC Call switch wp, suitable for wash basin Pneumatic call switch, suitable for bathtub	70 0115 00 70 0111 00 70 0106 00

Necessary accessories: Refer to table on page 39.
Cable legend: Refer to page 41.

Nurse station

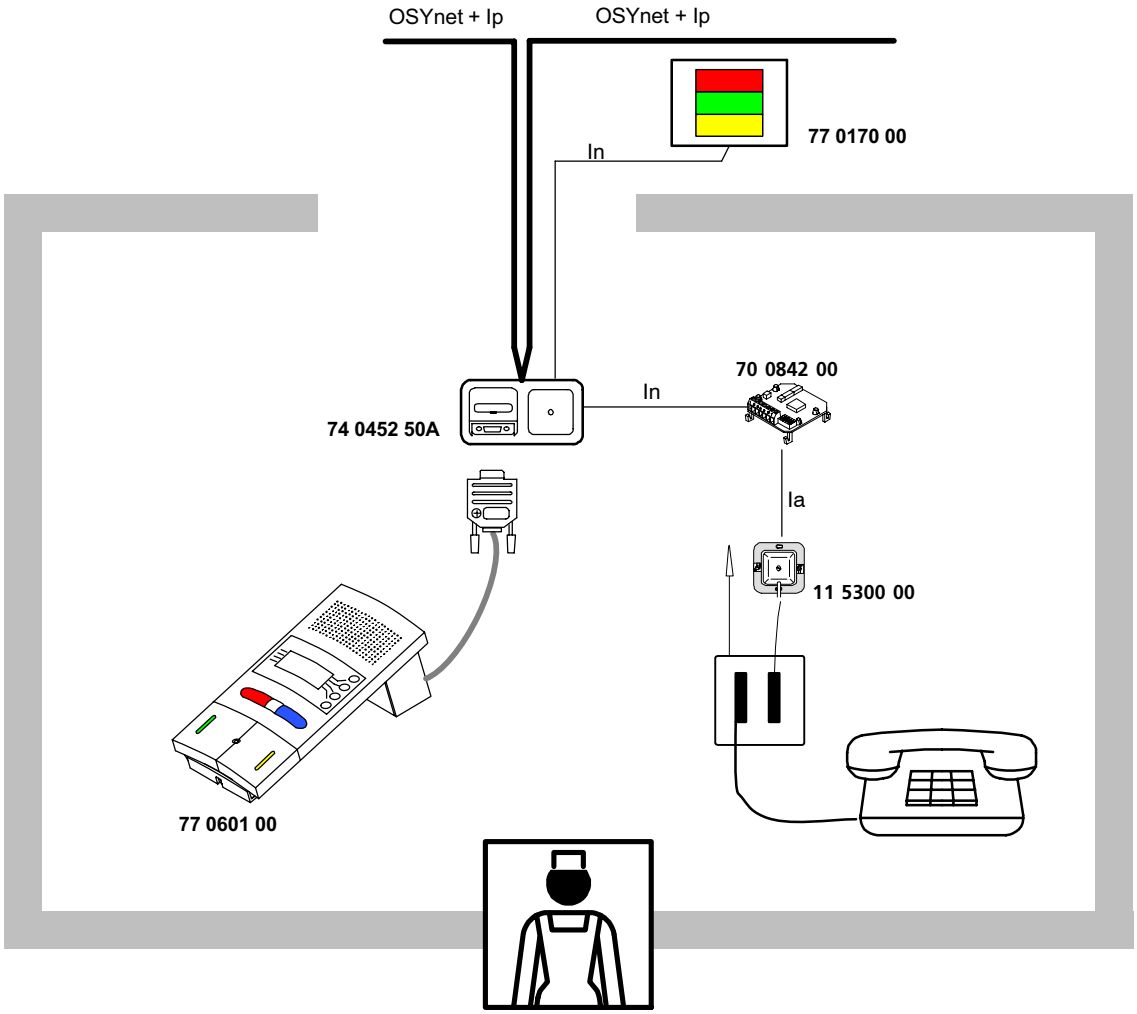
Ward console ComStation^{CT}, desktop unit



For each room		
	ComStation^{CT}, desktop unit	77 0601 00
	Connection socket ComStation	74 0452 50A
	Room lamp for display of all types of calls and presence states: e.g. Room lamp, 3 sections	77 0170 00

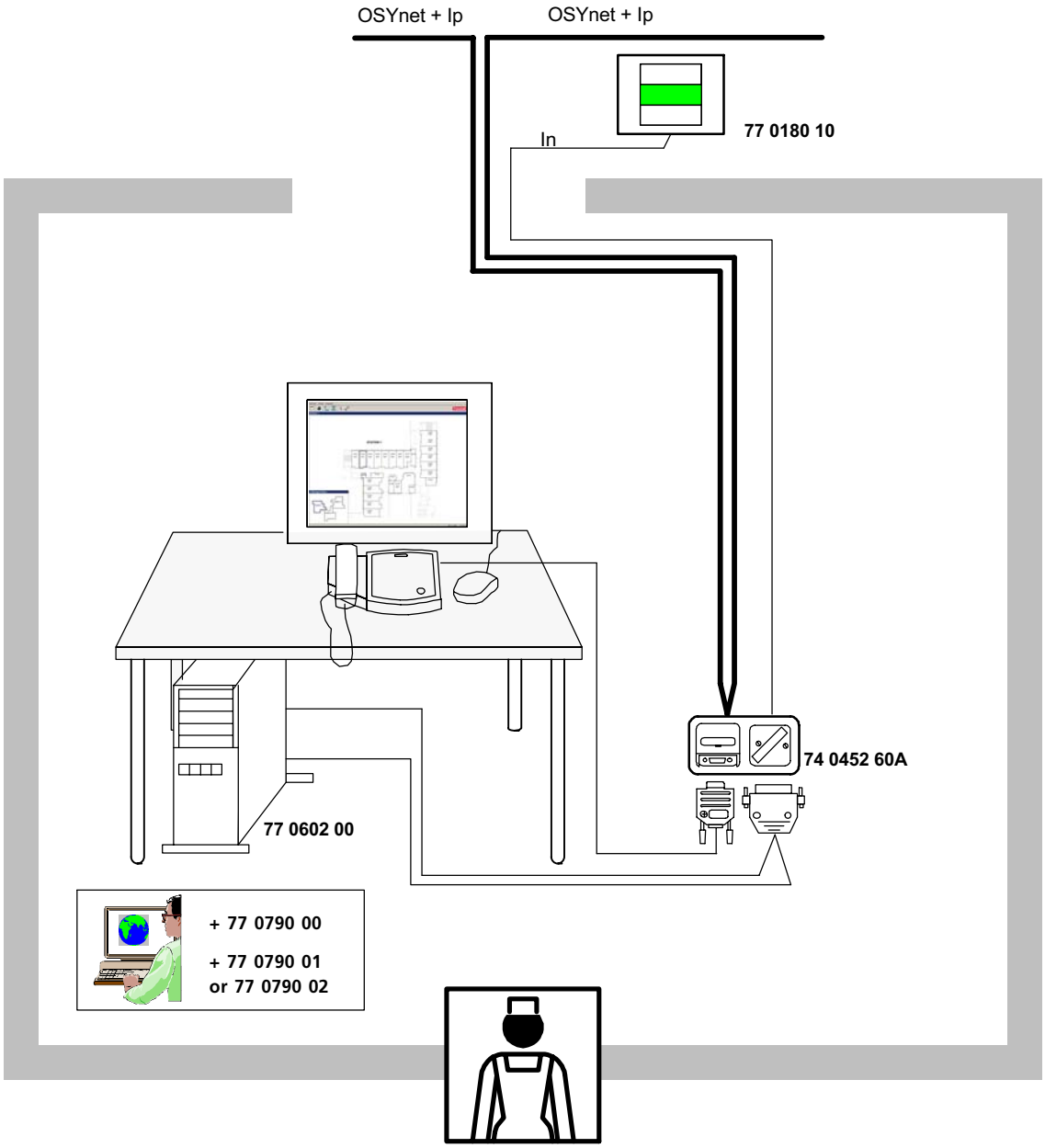
Necessary accessories: Refer to table on page 39.
Cable legend: Refer to page 41.

Ward console ComStation^{CT} with telephone call



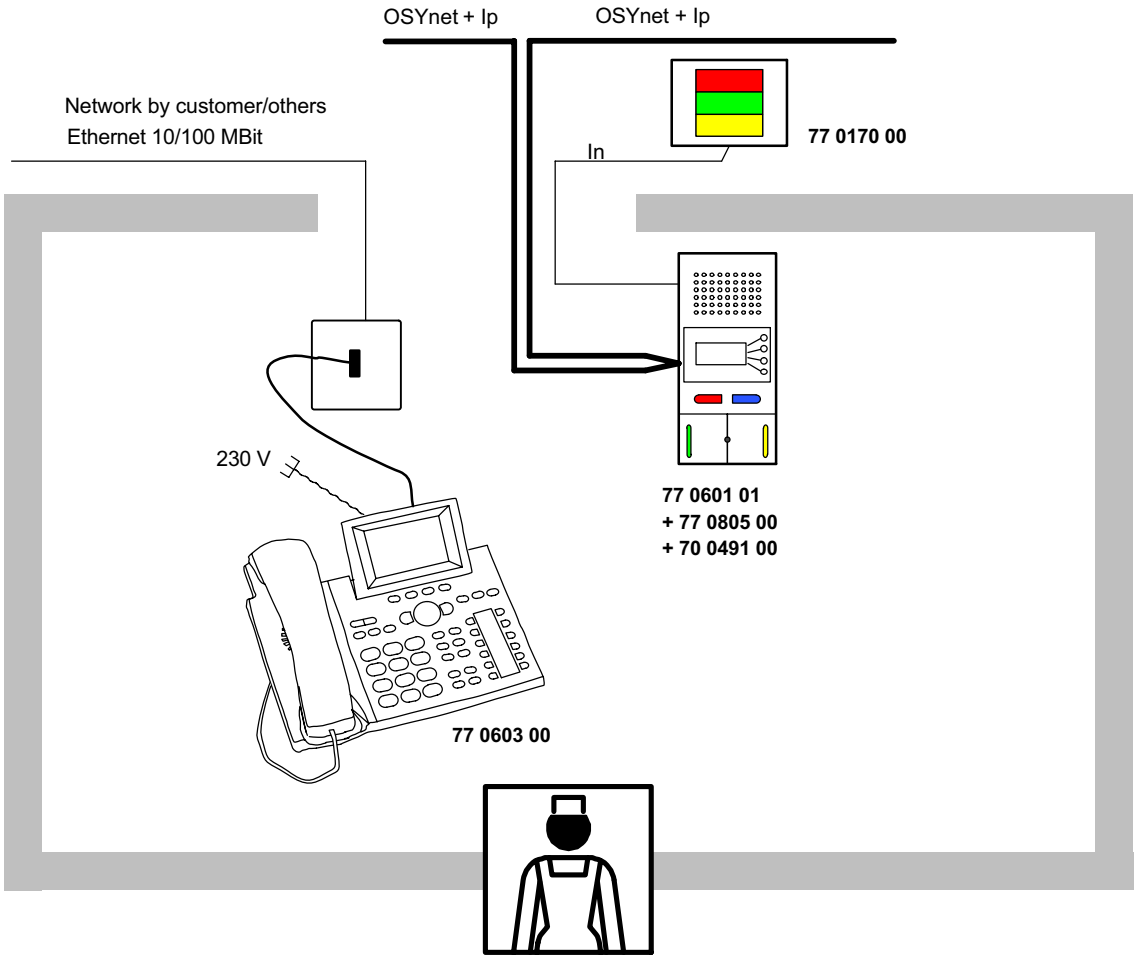
Telephone calls at analogue telephones in the nurse station with ComStation^{CT}, desktop unit (77 0601 00) can be signalled as telephone calls in the nurse call system. Required equipment: RAN interface telephone call (70 0842 00) and the telephone interface relay (11 5300 00).

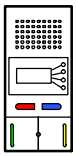
Ward console ComStation^{PC}



For each room		
	ComStation^{PC}	77 0602 00
	Connection socket ComStation^{PC}	74 0452 60A
	Room lamp, 3 sections	77 0180 10
	PrimusGlobal^{+} System set-up & configuration	77 0790 00
	PrimusGlobal^{+} Project data for up to 36 rooms standard *or* layout	 77 0790 01 77 0790 02

Ward console ComStation^{TEL}

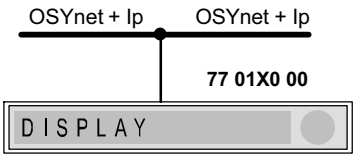


For each room		
	ComStation^{TEL}	77 0603 00
For each room (if compliance with DIN VDE 0834 is required)		
	ComTerminal	74 0510 00
	OSYlink-ComTerminal	77 0805 00
	Connection socket ComTerminal	70 0491 00
	Room lamp for display of all types of calls and presence states: e.g. Room lamp, 3 sections	77 0170 00

Necessary accessories: Refer to table on page 39.
Cable legend: Refer to page 41.

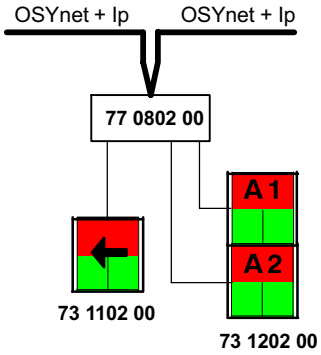
Corridor

Corridor display:



The corridor display Alpha 16, one-sided (77 0150 00) or Alpha 16, double-sided (77 0160 00) is directly connected to the group bus OSYnet.

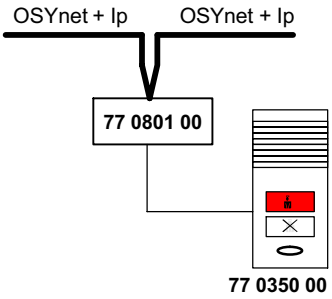
Group lamps, Direction lamps:



Each OSYlink-group lamp interface (77 0802 00) will support:

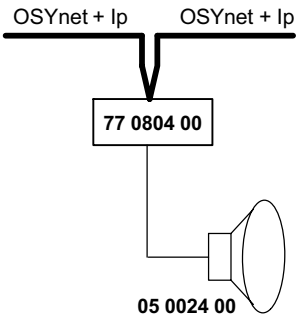
4 direction lamps (73 1102 00)
or
group lamps (73 1X02 00) for 4 wards.

Door entry speaker:



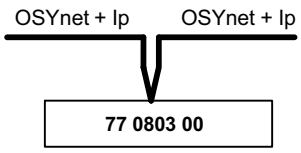
Each OSYlink-door entry speaker interface (77 0801 00) will support one door entry speaker (77 0350 00) .

Loudspeaker with announcement interface:



Each OSYlink-announcement interface (77 0804 00) will support up to 5 loud-speakers (05 0024 00) .

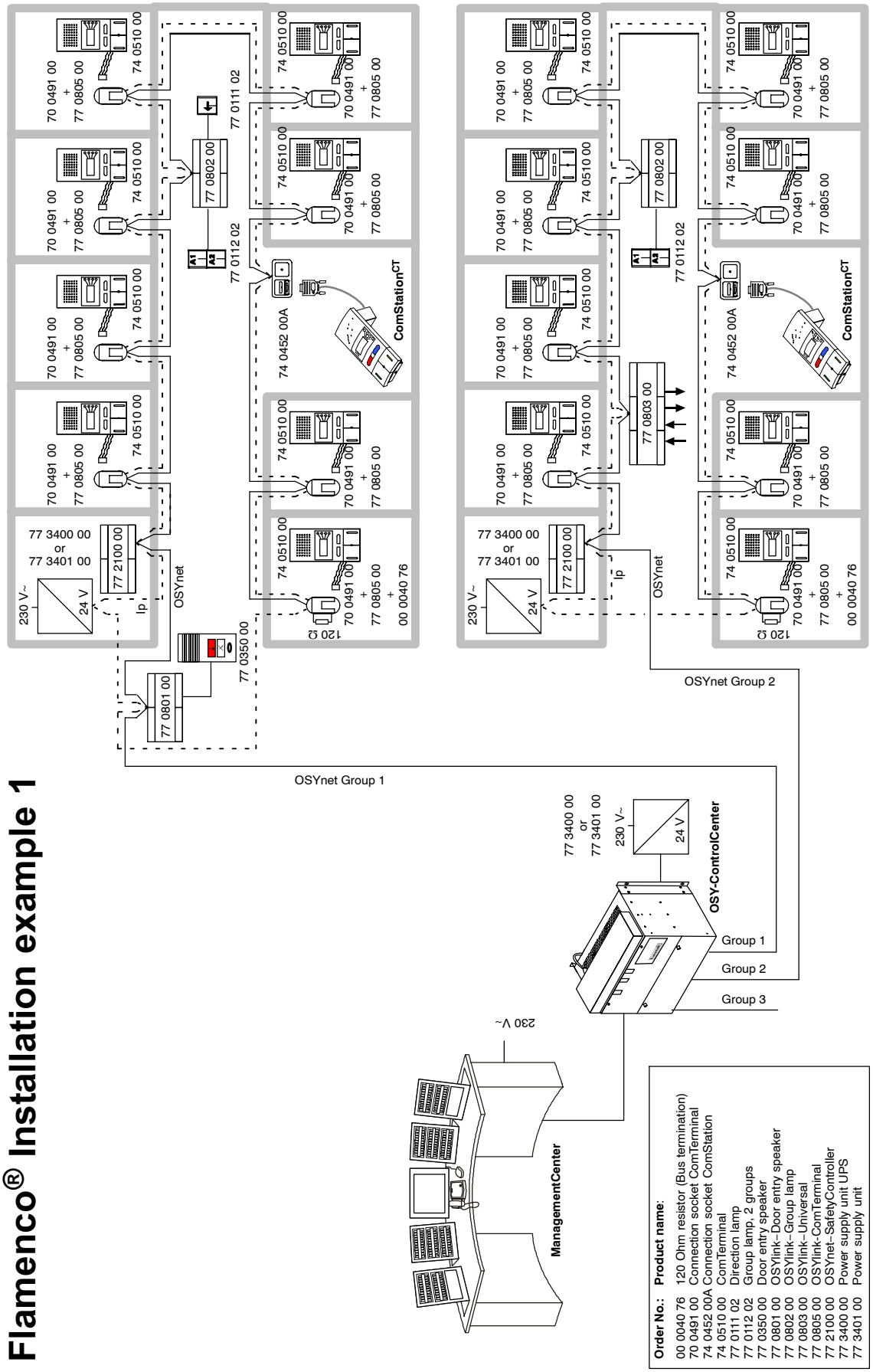
Devices or technical systems from other makes:



Equipment from other makes can be connected using OSYlink-Universal (77 0803 00)
1 monitored input per call category: call, emergency call, code blue/cardiac alarm. 1 solid state output per call category: call, emergency call, code blue/cardiac alarm. 1 monitored input, configurable. 1 solid state output, configurable. 1 input, configurable) 1 solid state output, configurable, with location light function (function-related to digital input). 3 inputs, configurable. 1 solid state output, configurable. 2 relay outputs, configurable (change-over contact, voltage source internal or external selectable by jumper)

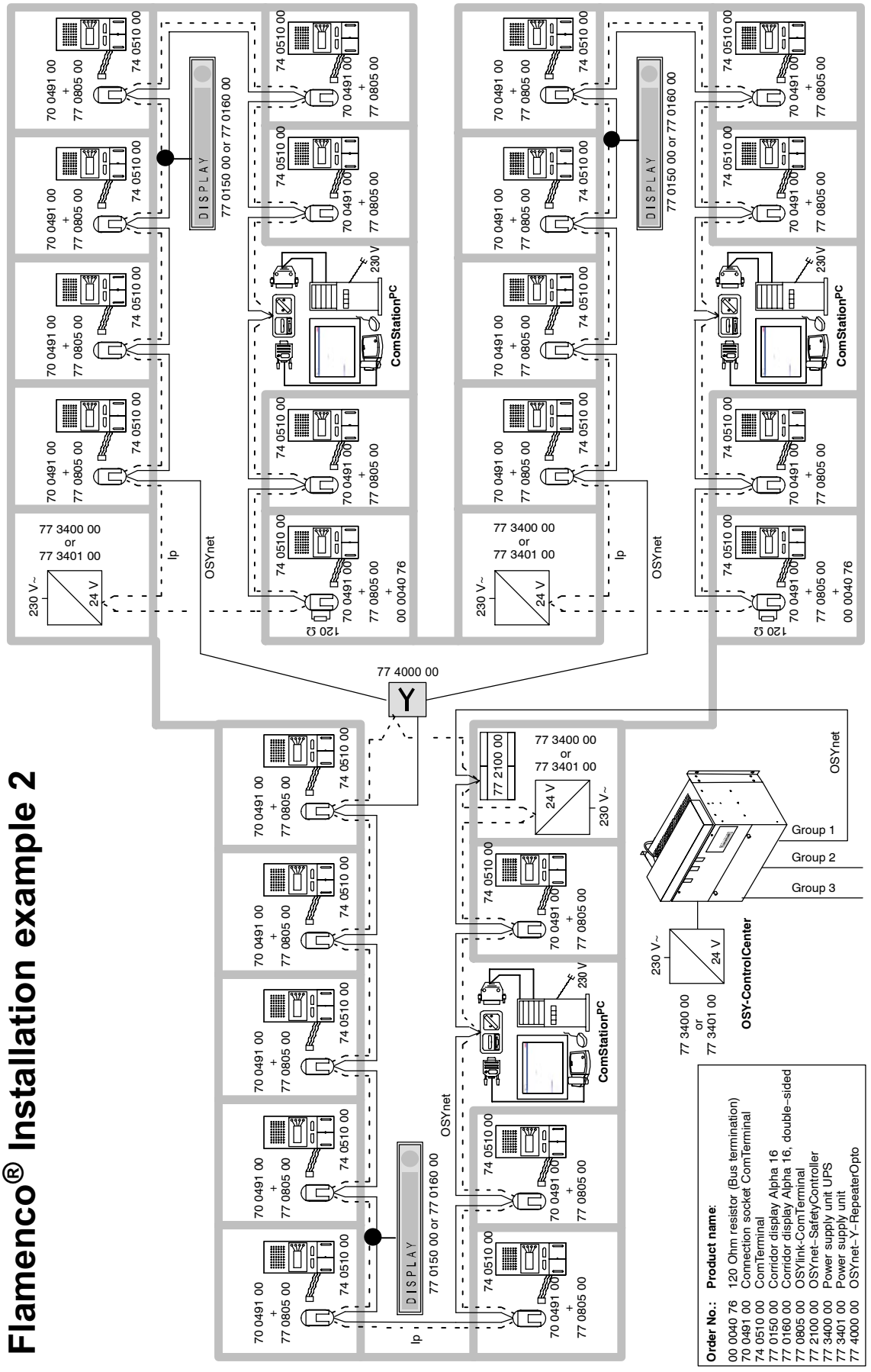
4. Installation examples

Flamenco® Installation example 1



Order No.:	Product name:
00 0040 76	120 Ohm resistor (Bus termination)
70 0491 00	Connection socket ComTerminal
74 0452 00A	Connection socket ComStation
74 0510 00	ComTerminal
77 0111 02	Direction lamp
77 0112 02	Group lamp, 2 groups
77 0350 00	Door entry speaker
77 0801 00	OSYlink–Door entry speaker
77 0802 00	OSYlink–Group lamp
77 0803 00	OSYlink–Universal
77 0805 00	OSYlink–ComTerminal
77 2100 00	OSYnet–SafetyController
77 3400 00	Power supply unit UPS
77 3401 00	Power supply unit

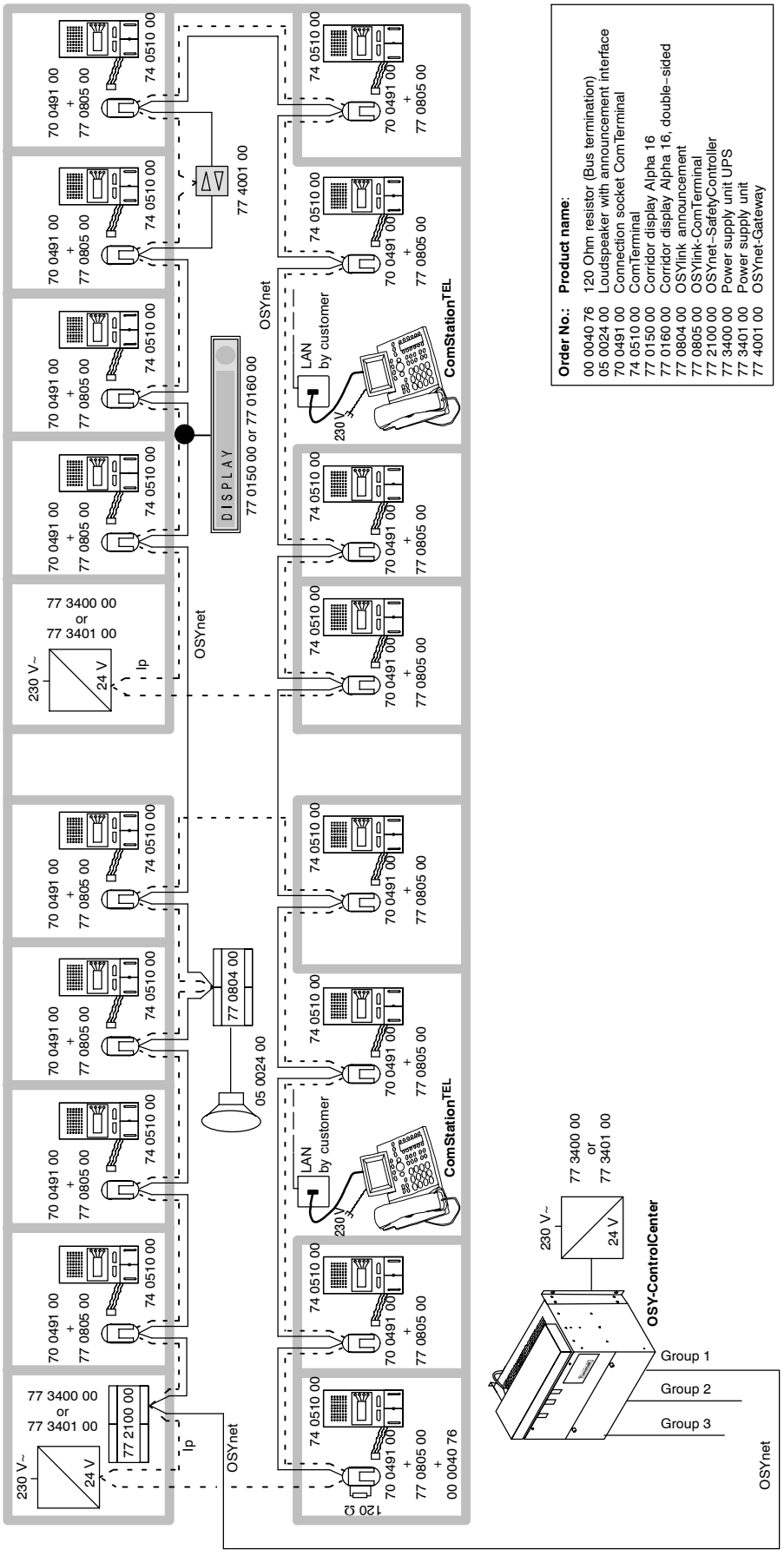
Flamenco® Installation example 2



Order No.: Product name:

00 0040 76	120 Ohm resistor (Bus termination)
70 0491 00	Connection socket ComTerminal
74 0510 00	ComTerminal
77 0150 00	Corridor display Alpha 16
77 0160 00	Corridor display Alpha 16, double-sided
77 0805 00	OSYlink-ComTerminal
77 2100 00	OSYnet-SafetyController
77 3400 00	Power supply unit UPS
77 3401 00	Power supply unit
77 4000 00	OSYnet-Y-RepeaterOpto

Flamenco® Installation example 3



5. Installation work sequence

	Work step	Description
1.	Defining the mounting positions	Page 33 and on
2.	Installation of back boxes	Page 39 and on
3.	Cable laying	Page 41 and on
4.	Mounting and connecting of devices	Product leaflet, Page 71 and on
5.	Switching on and checking of power supply units	Page 51 and on
6.	Configuring of ComTerminals	Product leaflet for ComTerminal (Order No. 74 0510 00) and in chapter “Product leaflets”, Page 71 and on
7.	Configuring of OSY-ControlCenter (SystemOrganizer)	Page 55 and on
8.	Connecting the OSY-ControlCenter	Product leaflet for OSY-ControlCenter and in chapter “Product leaflets”, Page 71 and on
9.	Commissioning of OSY-ControlCenter	Product leaflet for OSY-ControlCenter and in and in chapter “Product leaflets”, Page 71 and on
10.	Connecting and commissioning of Management-Center	Product leaflet for MangementCenter and in and in chapter “Product leaflets”, Page 71 and on
11.	System: Functional checks	Page 57 and on

6. Defining the mounting positions

General requirements

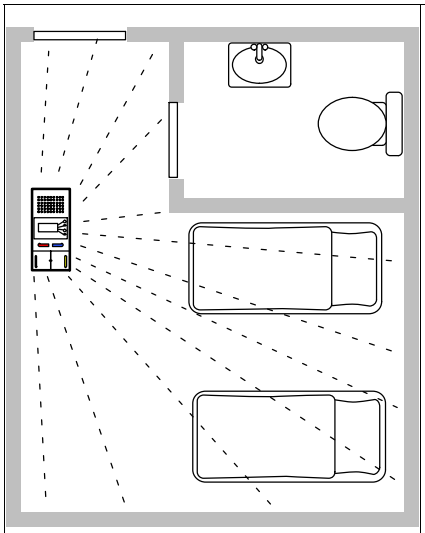
All devices for the nurse call system	- Considering the different users, the process of raising a call must be simple and unambiguous, and a mix-up with other system elements must be virtually impossible. - Damage or destruction from external effects which may occur during normal use (e.g. when moving beds) must be virtually impossible.
Devices with displays	- Unobstructed view must be ensured (ComTerminal, ComStation^{CT})
Call switches, Call devices	- Easy access and reach must be ensured.
Presence switches	- Near the door.
Optical signalling devices	- Visual recognition must not be obscured by other stray light.
Signal lamps, Corridor displays	- Called or paged persons shall be directed via the shortest distance to the call location.
Room lamps	- Shall be easily allocated to the respective rooms.
In WCs and wet rooms	- Comply with specifications acc. to DIN VDE 0100!
Power supply units, OSYlinks, OSYnet-SafetyController, OSYnet-Y-RepeaterOpto, OSYnet-Gateway 	- Use in dry rooms only; if possible within distribution cabinets (not inside of patient or resident rooms). - Easy access at any time (access door at least 60 mm wide). - Heat transfer must not be blocked off. - When installed in switch cabinets, forced-air cooling may be required. - Considering the effective voltage drop, the power supply unit should be located close to the biggest users. - **Fire hazard!** Danger of fire in case of short-circuit. Therefore, ensure sufficient ventilation in distribution cabinets.
Distributor cabinets for both nurse call system and mains power supply	- After removing the outer cover, the high-voltage part must still be protected. - Clamps for the nurse call system and those for the high-voltage installations must be clearly separated and designated as such, e.g. by way of design, shape, colour. Inscriptions alone are not sufficient to preclude misuse.

Mounting heights

Prescribed mounting height acc. to DIN VDE 0834:

	Mounting height above floor level:
Device with control elements (with and without indicating lamps)	700 - 1500 mm
Device with control elements with text display	1500 - 1700 mm
Device in installation units	1600 - 1800 mm
Signal lamps and large letter display	1500 - 2200 mm
Distribution boxes	700 - 2200 mm

Room terminals

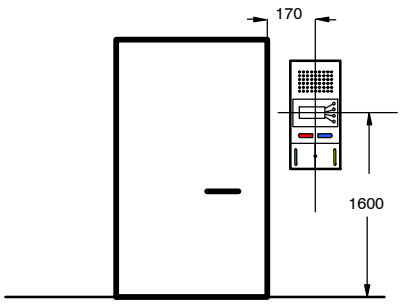


ComTerminal

Order No.: 74 0510 00

Location in the room:
The ComTerminal has to be installed in a acoustically convenient location, so that from all locations in the room a good speech connection over the ComTerminal is possible.

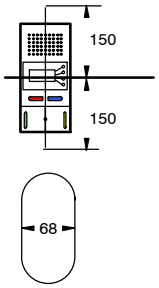
Note: If the ComTerminal is not installed in the entrance area, a separate staff presence switch (70 0112 00) has to be installed near the door.



2-gang back box required .

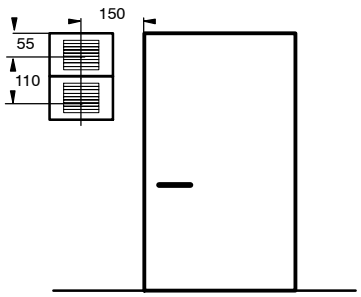
Note:

At 2-gang back boxes at least 150 mm space (from the centre) must be provided for the ComTerminal.



The hole brought down for the back box must be at least 68 mm in diameter, otherwise the circuit board OSYlink-ComTerminal cannot be correctly inserted into the connection socket ComTerminal.

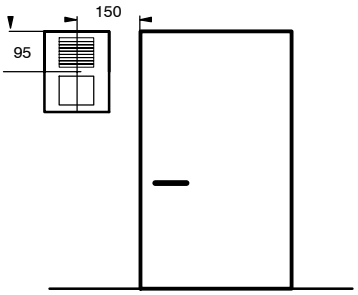
Room lamps



Room lamp

Order No.: 77 0170 00, 77 0170 01, 77 0170 10, 77 0180 00

1-gang back box required for each room lamp.

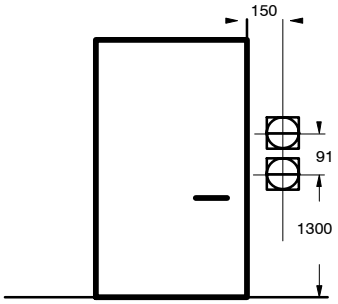


Room lamp with doorplate

Order No.: 77 0171 00, 77 0171 10, 77 0181 00

1-gang back box required for each room lamp with doorplate.

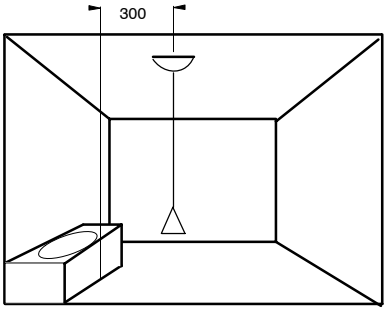
Switches



Switches near the door

1-gang back box required for each switch.

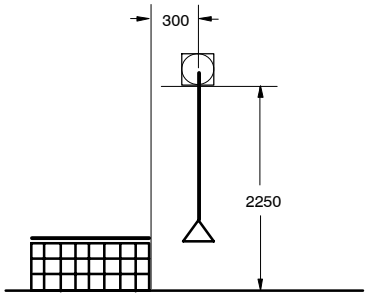
91 mm raster spacing is mandatory!



Pull cord call switch in bathroom/WC (ceiling mounted)

Order No.: 70 0115 00, 70 0115 01

1-gang back box required.

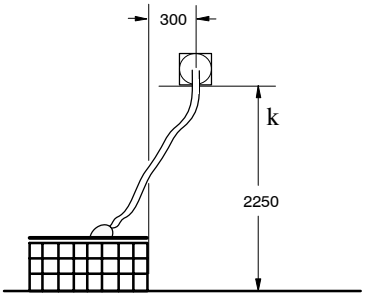


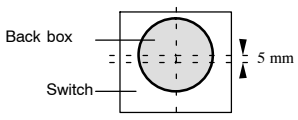
Pull cord call switch in bathroom/WC (wall mounted)

Order No.: 70 0115 00, 70 0115 01

1-gang back box required.

Pull cord call switches in shower stalls must be mounted at least 200 mm above the shower head.





Pneumatic call switch

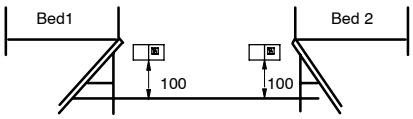
Order No.: 70 0106 00, 70 0106 01

1-gang back box required.

Back box for solid wall: 17 0100 00
Back box for partition wall: 17 5100 00

Note: The switch will be offset, i.e. the switch centre will be ca. 5 mm below the back box centre. In other words, install the back box 5 mm above the desired switch position.

Connection sockets

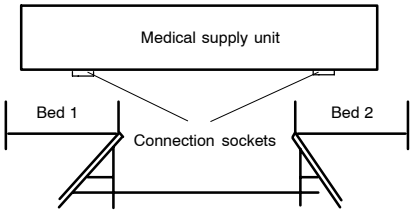


Connection socket combi (wall mounting)

Order No.: 70 0424 00

2-gang back box required.

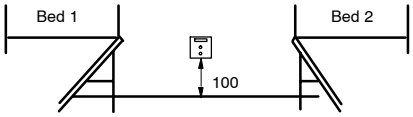
100 mm minimum spacing above floor level.



Connection socket combi, bedhead unit (mounting in medical supply unit)

Order No.: 70 0434 00

Common practice is that the connection sockets are installed by the supplier of the medical supply units.



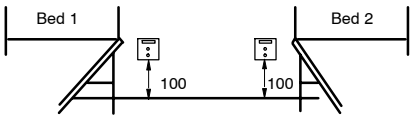
Connection socket with call switch (1 connection socket for 2 beds)

Order No.: 70 0171 03

Minimum arrangement for mounting between 2 beds for connection of 2 pear push switches.

Consider that beds are moved about!

100 mm minimum spacing above floor level.



Connection socket with call switch (1 connection socket per bed)

Order No.: 70 0171 03

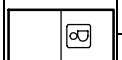
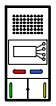
100 mm minimum spacing above floor level.

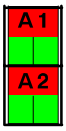
7. Installing the back boxes

Refer to the table of accessories to find the correct back box. Note: There are different back boxes for solid walls and hollow walls.

Some devices call for special accessories which must be ordered. Use the table below to select the correct back boxes and connecting clamps.

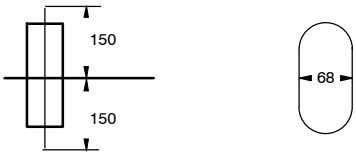
Table of accessories

			Back boxes				
			Solid wall		Partition wall		Connector
		Order No.	17 0100 00	17 0410 00	17 0510 00	17 0540 00	70 0807 00
Tel.	Telephone interface relay	11 5300 00	17 0200 00				
	Pneumatic call switch	70 0106 00	Centre offset		Centre offset		●
	Pneumatic call switch/WC	70 0106 01	Centre offset		Centre offset		
	Call switch	70 0111 00	●		●		●
	Call switch/WC	70 0111 01	●		●		●
	Staff presence switch	70 0112 00	●		●		●
	Cancel switch/WC	70 0113 00	●		●		●
	Code blue / Cardiac alarm switch	70 0114 00	●		●		●
	Pull cord call switch	70 0115 00	●		●		●
	Pull cord call switch/WC	70 0115 01	●		●		●
	Call switch/WC with cancel switch	70 0117 00	●		●		●
	Call switch with privacy switch	70 0118 00	●		●		●
	Connection socket with call switch	70 0171 03	●		●		70 0807 01
	Cancel switch/WC with call tone	70 0183 00	●		●		●
	Connection socket combi	70 0424 00		●		●	
	Connection socket combi bed. unit	70 0434 00	Installation in medical supply unit				
	Connection socket ComTerminal	70 0491 00		●		●	00 0222 88

		Order No.	Back boxes: Solid wall 17 0100 00	Back boxes: Solid wall 17 0410 00	Back boxes: Partition wall 17 0510 00	Back boxes: Partition wall 17 0540 00	Connector 70 0807 00
	Connection socket ComStation	74 0452 50A		●		●	
	Connection socket Comstation^{PC}	74 0452 60A		●		●	
	Direction lamp	77 0111 02	●		●		
	Group lamp, 2 groups	77 0112 02	●		●		
	Group lamp, 3 groups	77 0113 02	●		●		
	Group lamp, 4 groups	77 0114 02	●		●		
	Room lamp, 3 sections	77 0170 00	●		●		●
	Room lamp code blue/cardiac alarm, WC	77 0170 01	●		●		●
	Room lam, 4 sections	77 0171 10	●		●		●
	Room lamp, 3 sections with door plate	77 0171 00	●		●		●
	Room lamp, 4 sections with door plate	77 017110	●		●		●
	Room lamp, 3 sections	77 0180 10	●		●		
	Room lamp universal, 3 sections with doorplate	77 0181 10	●		●		
	OSYnet-Y-RepeaterOpto	77 4000 00					77 0950 00
	Sound detector, wall mounted	Z 00 8200 00	●		●		

ComTerminal

A 2-gang back box is required for mounting the ComTerminals. Place the back box such that when installing the connection socket, a minimum of 150 mm from the centre of the back box is available above and below the centre. The borehole diameter for the back box must be at least 60 mm. Otherwise the OSYlink-ComTerminal cannot be placed correctly into connection socket ComTerminal.



8. Laying the cables

When laying the cables, closely observe the current VDE rules.

Cable legend

To simplify the handling of installation plans, Tunstall GmbH has introduced an expanded cable legend.

The cables are organised according to their application areas. Relevant types of cables are allocated to specific application areas. These shall be considered as minimum requirements.

Marking	Designation	Type of cable
la	General cables	IY(ST)Y 2x2x0.8
la2	General cables	IY(ST)Y 2x2x0.6
la3	General cables	IY(ST)Y 3x2x0.6
la4	General cables	IY(ST)Y 4x2x0.6
la5	General cables	IY(ST)Y 4x2x0.8
OSYnet	Group bus OSYnet	Either: UTP CAT-5; UTP CAT-6; IY(ST)Y 4x2x0.8; IY(ST)Y 4x2x0.6
le	Entertainment cables	2x IYY per channel or compatible cables (1 double wire required for each programme)
ln	Room bus RAN	IY(ST)Y 2x2x0.8
lp	Power cable	NYM 2x2.5 mm^2
ls	Speech cable plus room bus RAN	2x IY(ST)Y 2x2x0.8

Colour coding

bl	blue
br	brown
ge	yellow
gn	green
gr	grey
or	orange
rt	red
sw	black
vio	violet
ws	white

Electromagnetic compatibility (EMC)

All electronic components of the nurse call system emission and sensibility values which are well within the prescribed parameters for electromagnetic compatibility (EMC). Nevertheless, interference with the call system may occur in specific situations and due to insufficient interference suppression of fluorescent lamps - particularly in hospital installation units (medical supply units).

In the original building phase, contractors and users should take appropriate measures to prevent the occurence of external interference. It should be checked whether such external interference can be prevented through the implementation of suppressor assemblies (varistor element). They can be procured from the manufacturers. Here, Tunstall offers the overvoltage suppressor 230 V (70 0890 97).

The electromagnetic characteristics of medical supply units in a hospital may vary considerably. In fact, they may even vary for the same type of unit if they are wired in different manners.

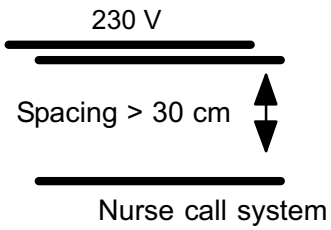
Generally speaking, nurse call systems are rather widespread in their layout, and therefore they their electromagnetic feature are greatly affected by the type and arrangement of the cabling network.

Note: This issue should also be considered when medical supply units are modified or retrofitted at any later date.

Cables for high-voltage installations and other systems with potential dangerous voltages

Cables for the nurse call circuits must not be installed in common cable conduits along with cables for high-voltage systems or with other cables with potentially dangerous voltages.

Cables for the nurse call system and high-voltage cables must be placed at a minimum spacing of 30 cm. For shorter distances of less than 10 m the spacing may be reduced to 10 cm.



In medical supply units the laying of cables for nurse call systems must be executed in compliance with ISO 11197:2004 (German version: EN ISO 11197:2004).

Electric power supply cables (lp)

Electric power for the system is provided with 24 VDC, which is generated by regulated, short-circuit proof power supply units.

The power supply cable lp is installed as a ring circuit. Cable lengths should be kept as short as possible to preclude larger voltage drops.

Maximum voltage differential from the power supply unit to the farthest room being supplied via the ring circuit should not exceed 4 V.

Where larger voltage drops are observed, another cable should be laid from the supply unit, or a cross linking within the 24 V ring circuit should be realised to effectively reduce the total distance, and as such the voltage drop. If neither solution will solve the problem, a second power supply unit should be installed. Coupling of power supply units in parallel is not allowed.

The power supply ring circuit should be made using cables of 2.5mm^2 cross section. Depending on the type of circuit, single core leads (NYA 2.5 mm^2 for +24V and 0V) or a common cable (NYM 2x2.5 mm^2) may be used.

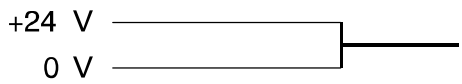


Fig. 4: NYM 2x2.5 mm^2

NOTE! When laying the cables, always select the shortest route to keep the resultant voltage drop as low as possible.

Use of logic colour codes for the cables and/or specific laying techniques for the low-voltage cables shall eliminate the chance for mix-up with high-voltage cables. If you select to use cable material which is also used for high voltage circuits you should mark and designate these cables clearly and permanently.

Comply with current rules and directives!

Current demand

The table below was prepared to facilitate the estimation and calculation of the required current in the system. The values are average figures and may deviate somewhat for individual applications. Data on illuminants, naturally, are subject to larger tolerances. Total current consumption will vary according to the number of functions used at any one time.

		Standby current	**Additional current**
74 0510 00	ComTerminal (incl. OSYlink)	96 mA	Display light On: 150 mA
77 0170 xx	Room lamp	20 mA	Each lighted section: 60 mA
77 0171 xx	Room lamp with doorplate	20 mA	Each lighted section: 60 mA
70 0171 03	Connection socket with call switch	15 mA	
70 04x4 00	Connection socket combi / combi bedhead unit	30 mA	
74 0747 00	Patient handset	20 mA	
70 xxxx xx	Switch	10 mA	
70 08xx 00	RAN interfaces	20 mA	
70 0790 00	Sound detector	16 mA	
70 0831 00	1-channel radio receiver	35 mA	
77 011x 02	Direction lamp / Group lamps	0 mA	Each lighted section: 75 mA
77 0150 00	Corridor display Alpha 16	Average current consumption: 300 mA	
77 0160 00	Corridor display Alpha 16, double-sided	Average current consumption: 600 mA	
05 0024 00	Loudspeaker with announcement interface	80 mA	
77 0601 00	ComStation^{CT}, desktop unit	96 mA	Display light On: 150 mA
77 0350 00	Door entry speaker	30 mA	Operating: 45 mA
77 0801 00	OSYlink-Door entry speaker	53 mA	
77 0802 00	OSYlink-Group lamp	26 mA	
77 0803 00	OSYlink-Universal	35 mA	
77 0804 00	OSYlink-Announcement	32 mA	
77 2100 00	OSYnet-SafetyController	30 mA	
77 4000 00	OSYnet-Y-RepeaterOpto	60 mA	
77 4001 00	OSYnet-Gateway	50 mA	

A power supply unit is required for each OSY-ControlCenter (Order No. 77 200 00).

Standard basis for calculation

To calculate the required current, first add all standby current figures or the average current consumption, respectively.

In a simplified manner, the additional current demand can be calculated as follows: You may assume that on the average 5 calls, 5 presence states and one speech connection are active at any one time.

Current demand for each call = 100 mA

Current demand for each presence state = 100 mA

Current demand for each speech connection = 50 mA

The power supply unit should not be loaded by more than 80% of its capacity. Maximum capacity for the power supply units is 12.5 A. The 80% permissible load, therefore, amounts to 10 A.

Sample calculation

Example: 25 two-bed rooms with WC

Number	Device	Standby current : per device	Standby current : for 25 rooms
25	ComTerminal	96 mA	2400 mA
25	Room lamp, 3 sections	20 mA	500 mA
25	Room lamp code blue/cardiac alarm, WC	20 mA	500 mA
50	Connection socket Combi bedhead unit	30 mA	1500 mA
50	Patient handset	20 mA	1000 mA
50	Switch	10 mA	500 mA
1	ComStation^{CT}, desktop unit	96 mA	96 mA
1	OSYlink-Group lamp	26 mA	26 mA
1	Group lamp, 2 groups	0 mA	0 mA
	Sum (standby current):		6522 mA
Number	**Function**	**Additional current: per function**	**Additional current: per ward**
5	active calls	100 mA	500 mA
5	active presence states	100 mA	500 mA
1	active speech connection	50 mA	50 mA
	Sum (additional current):		1050 mA
	Total (standby current + additional current):		7572 mA

80% load on a power supply unit = 10 A (100% = 12.5 A)

Result: One power supply unit is required for the 25 two-bed rooms with WC.

Group bus OSYnet

Lay all cables to the control unit OSY-ControlCenter. Use the locally available facilities (distributors, cable conduits).

CAUTION ! For the group bus OSYnet no stub lines may be installed. All devices must be directly connected to the bus.

Cables for the nurse call system which run outside of the building must be fitted with an overvoltage protection acc. to DIN VDE 0845 at the position where they leave the building. This overvoltage protection will not be required if a galvanic disconnect point prevents the effect of harmful voltages.

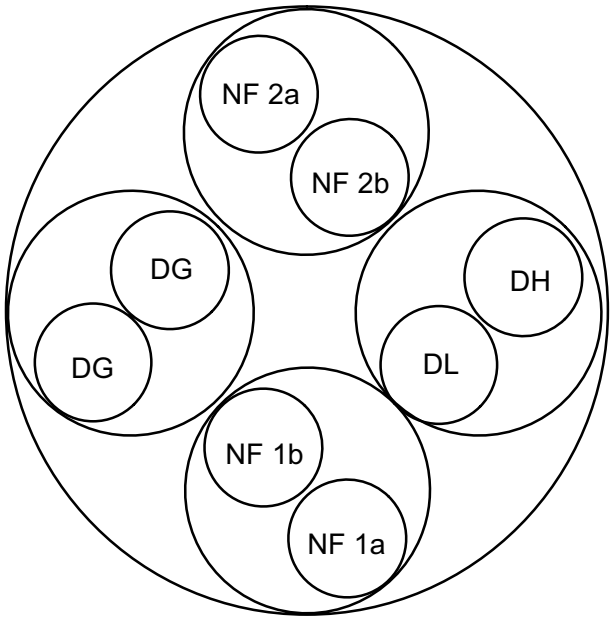
Useable cable types

The following types of cables may be used for the group bus OSYnet:

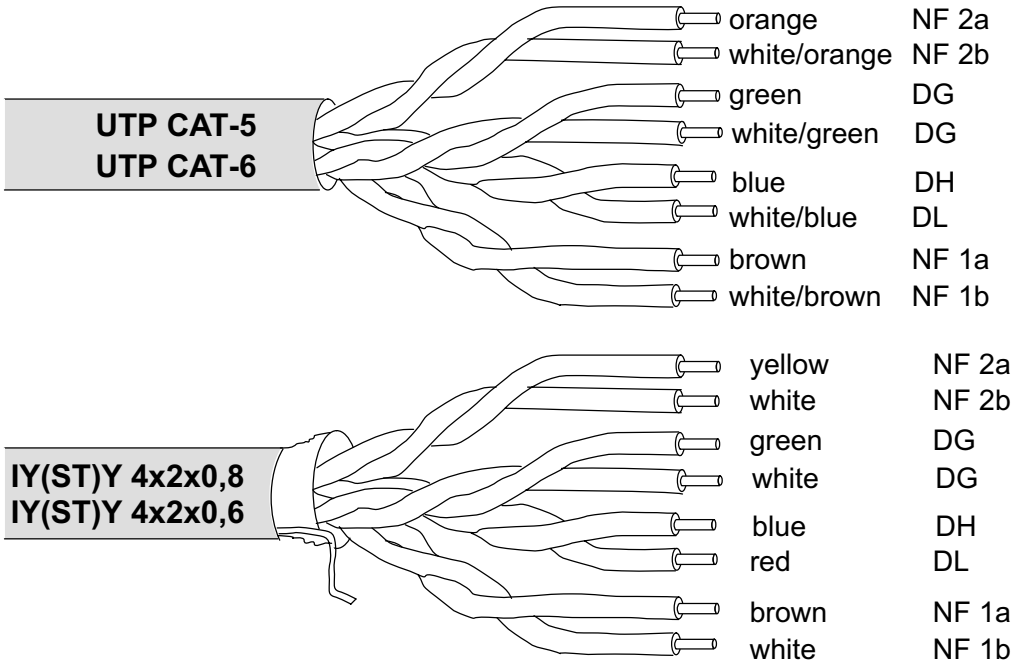
- UTP CAT-5
- UTP CAT-6
- IY(ST)Y 4x2x0.8
- IY(ST)Y 4x2x0.6

NOTE! As alternative solutions, halogen-free variants as well as underground cables can be used. Contact Tunstall GmbH when planning to use any other type of cable.

These cables are drilled in pairs in the following design:

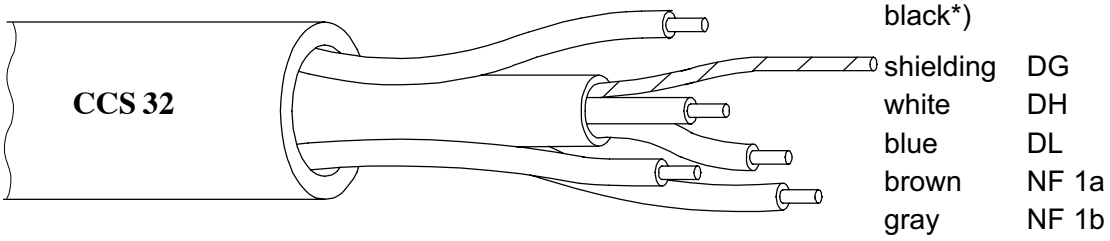


Prescribed cable assignment



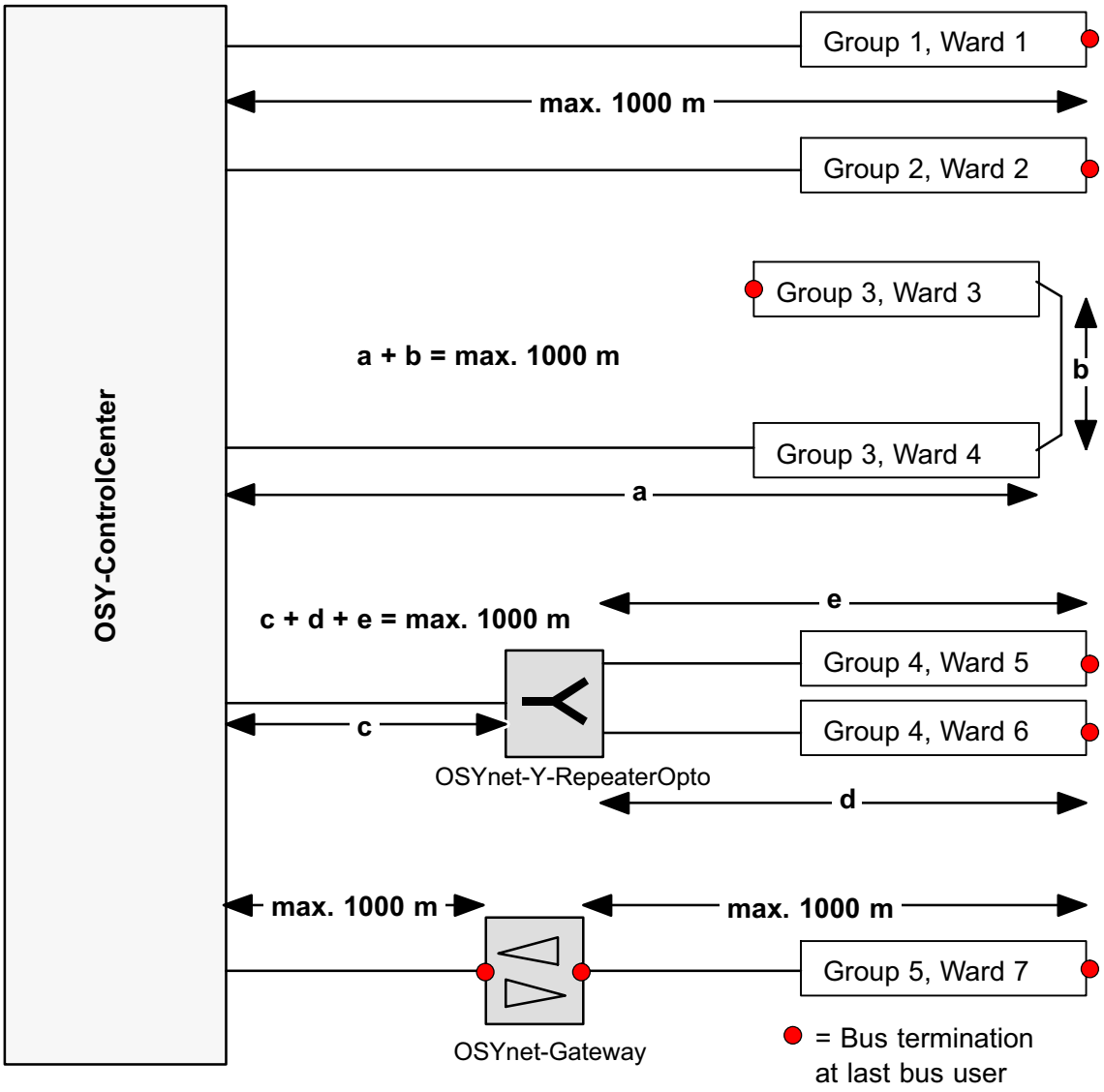
CCS 32-cables

The system cable CC32 from Tunstall has been used in many earlier re-conditioning projects. The cable may be used, however, only one speech path will be available.



*) The black strand is not used.

Maximum permissible cable lengths for OSYnet



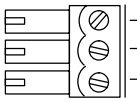
Where several wards are connected to a group bus, it may be necessary to split the group bus into two independent sections. The splitting is done using the OSYnet-Y-RepeaterOpto (Order No. 77 4000 00). One repeater can be used for each group.
Where the max. cable length of 1000 m will not suffice, the group bus can expanded for another 1000 m using the OSYnet-Gateway (Order No. 77 4001 00). One Gateway can be used for each group.

Bus termination

The last device (e.g. a ComTerminal) at a bus cable must be fitted with a 120 Ohm resistor (Order No. 00 0040 76) between the connecting points DH and DL.

Room bus RAN

The RAN (room area network) links all components in a room. For data linking, 3-strands of IY(ST)Y 2x2x0.8 (Cable = In) are required..



Max. permissible cable length for RAN is 50 m.

Devices for voice communication require an additional speech line (cable Is).

All devices with RAN interface can be connected at random (star, bus or mesh network). Later expansion of the RAN can be realised from any device and independent of the device's particular function. Only additional devices with voice communication require an extra voice line.

For a better overview, split the various RAN connections into function groups. This type of an arrangement is more service-friendly (Fig. 5 on next page).

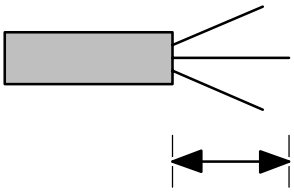
The type of installation has no influence on the RAN functions.

The voltage drop caused at each cable connection caused by a current of max. 60 mA (1 yellow LED module) must not exceed 90 Millivolts in relation to the voltage at the ComTerminal. Under normal condition, this value is achieved when a room lamp is connected cable of type In, which is longer than 50 m.

Shielded cables for the room bus RAN (Is)

CAUTION ! Insulate the protective screen or the blank shield wire all the way to the connecting point. Otherwise, a short circuit situation or interference between lines may occur.

To ensure the protective screen function, all room bus cables for music or voice transmissions (shielded cables) may be stripped for a max. length of 30 mm only.



max. 30 mm

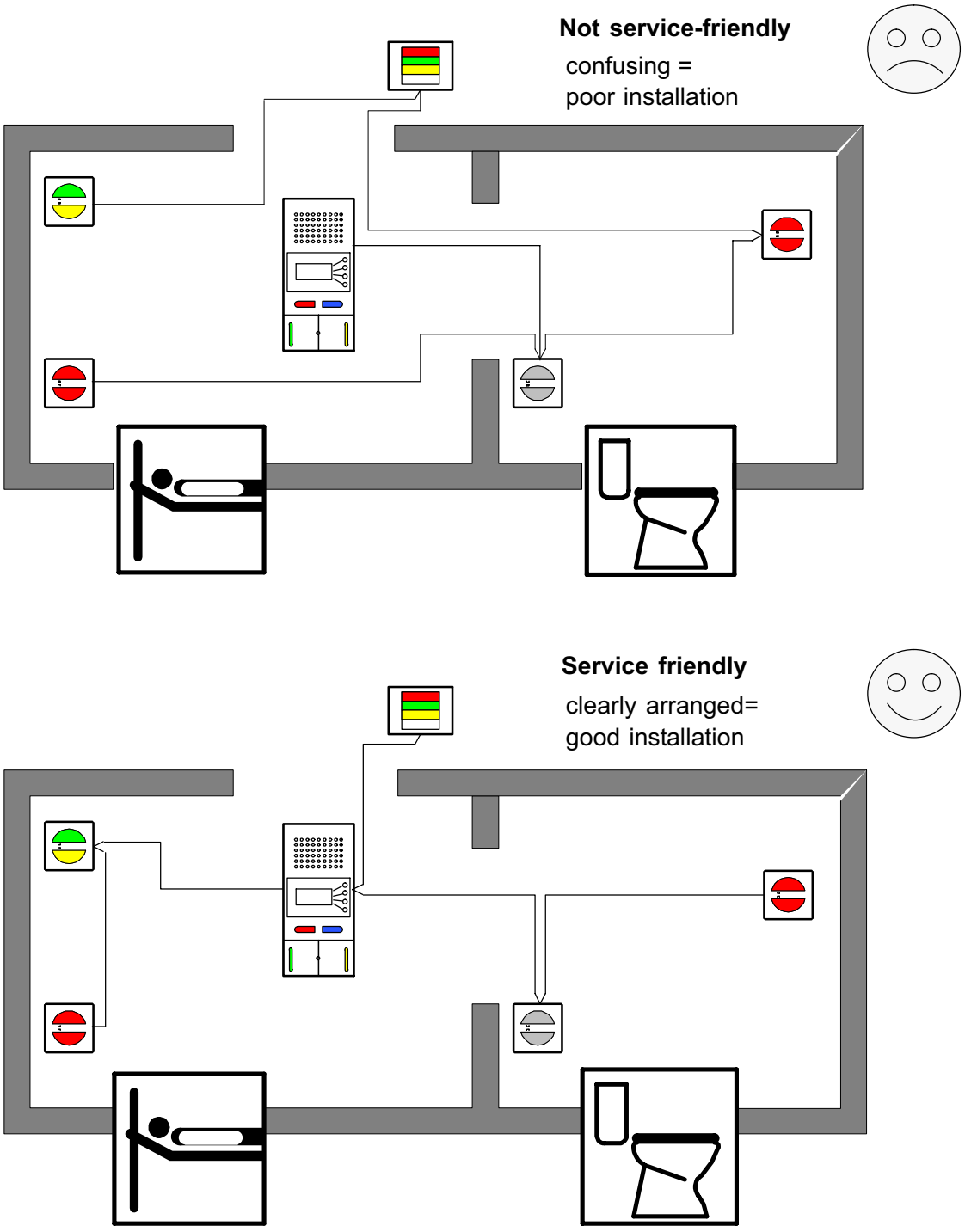


Fig. 5: RAN: Example for installation

9. Activating the power supply

Prerequisite: Except the power supply unit, all cables are installed and all devices are connected in compliance with the enclosed product leaflets.
Note: All product leaflets are presented in chapter 13. “Product leaflets”.

Installing the power supply unit

Before connecting the power supply unit you must check the cables to the power supply unit for possible short circuits and earth bonding.
Install the power supply unit acc. to the installation instructions coming with the unit. This information is also shown in the chapter 13. “Product leaflets”.

Check the current supply

The operating voltage for the whole system is 24 VDC. Electric current for the system components is supplied through power supply units.

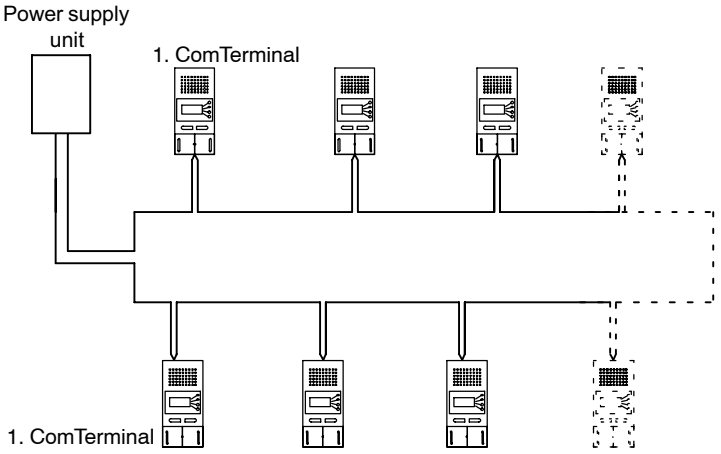
Execute the checks and tests as shown below:

Check output voltage of the power supply unit

Use a multi-meter to confirm the output voltage of 24 VDC.

Check continuity of 24 V ring circuit

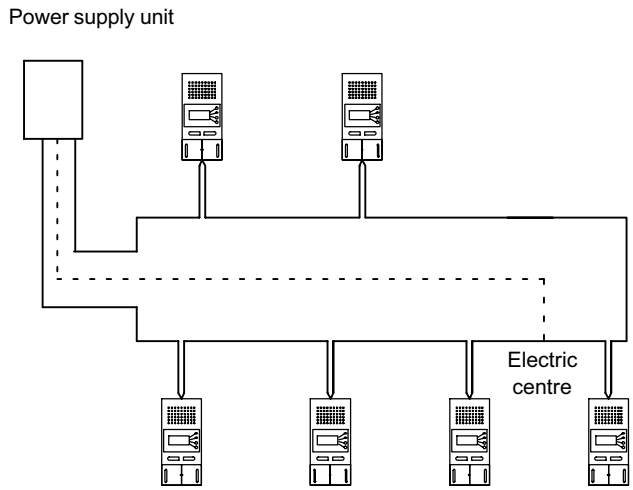
Disconnect one end of the ring circuit at the power supply unit. Switch the power supply unit on and measure the voltage at the open wires. If no voltage is measured, the ring circuit is not closed or one of the strands (positive or negative) is interrupted.



Supply voltage to the ComTerminals

Activate 5 calls and 5 presence states for the ward which is to be checked. Use the worst location, i.e. the most distant location from the power supply unit. Test the voltage and determine the ComTerminal with the lowest voltage. This point is considered the electric centre of the ring circuit. Here, the voltage differential to the first ComTerminal as seen from the power supply unit must not be greater than 4 V.

If you should read a lower value (i.e. a drop of more than 4V) the voltage drop must be reduced by laying an additional cable from the power supply unit to this point - or double the 0 V line - if it is available.



Check voltage for group bus OSYnet

If group bus OSYnet is correctly connected :
voltage between DH and DG and
voltage between DL and DG = ca. 2.5 V.

Check voltage for RAN

RAN voltage is o.k. when voltage between B (0V) and Y (RAN) is from 8.8 V to 9 V DC.

If the voltage is outside of these parameters, these may be the reasons:

If voltage between B (0V) and Y (RAN) = 0 V
a) Short circuit between B and Y
b) Strand Y (RAN) is not connected to the connection socket.

If voltage between B and Y = 12 V
a) Strand B (0V) is not connected at one of the using devices.
b) One device is defective.

Check voltage drop in RAN

Measure the supply voltage between the 24 V and the 0 V terminal points at the connection socket ComTerminal. Note the voltage (U).
Example: $U1_{ComTerminal}$ = 238 mV

Measure the supply voltage at the terminal points of the RAN device which is most distant from the ComTerminal (considering the cable length). If this device is not a room lamp, then connect a room lamp for the purpose of this test only. Note the voltage (U).
Example: $U1_{Room\ lamp}$ = 237 mV

Switch on Presence 2 (yellow). Only one yellow module should be on. If a second room lamp is connected, it should be removed from the circuit.

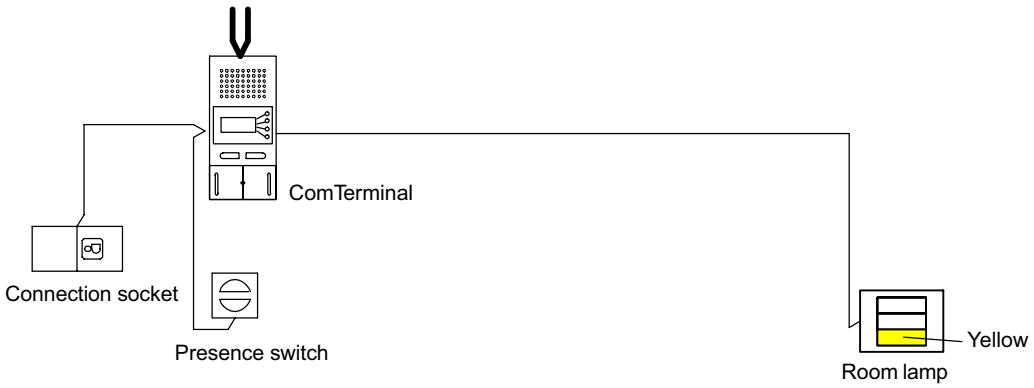
With Presence 2 (yellow) switched on, again measure the supply voltage at the connection socket ComTerminal and note the voltage (U).
Example: $U2_{ComTerminal}$ = 236 mV

With Presence 2 (yellow) switched on, again measure the supply voltage at the room lamp. Note the voltage (U).
Example: $U2_{Room\ lamp}$ = 233 mV

Calculate the relative voltage drop:

Relative voltage drop =
$(U1_{Room\ lamp} - U2_{Room\ lamp}) - (U2_{ComTerminal} - U2_{ComTerminal})$

The figure must not be greater than 90 mV. Reduce the voltage drop - if so required - by increasing the cable diameter for the 0 V line (double wiring).
Example: (237 - 233) - (238 - 236) = 20 mV.



10. Configure the OSY-ControlCenter

Before starting the operation of the nurse call system, the OSY-ControlCenter must be configured with the specific data of the relevant project. This configuration is realised exclusively using the software 'SystemOrganizer'. Standard procedure is that the OSY-ControlCenter is configured at Tunstall before it is delivered. However, the configuration may also take place on-location in the hospital or via remote service mode.

All project-specific data must be on hand when starting with the configuration process.

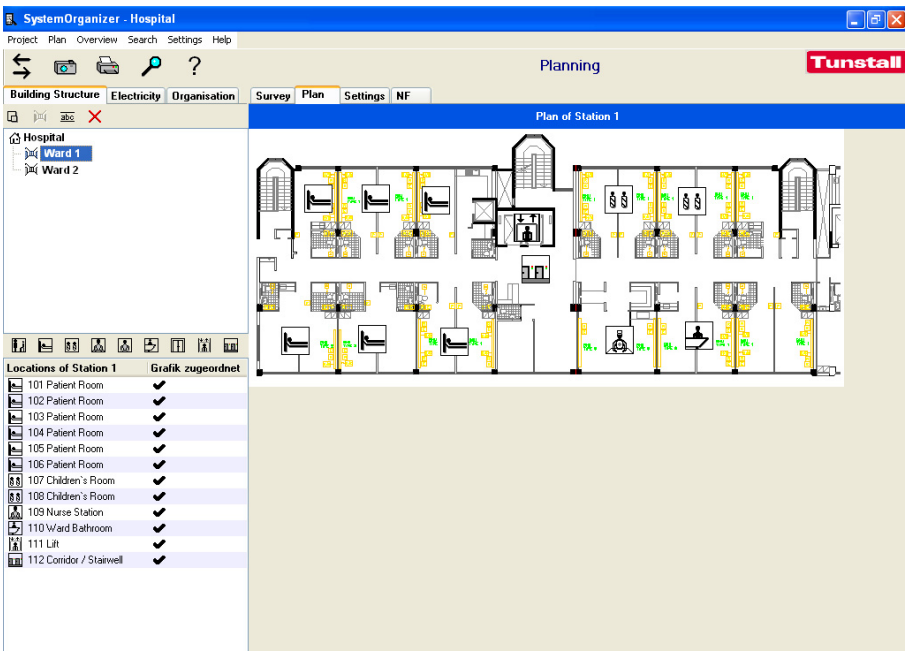


Fig. 6: Software SystemOrganizer

Parameter to be configured

- Country-specific settings
- Designation for rooms, wards, buildings, etc.
- Setting of call types and system messages
- Parameters for call handling, e.g. call types, call categories, cancelling, privacy setting
- Organisational allocation of rooms (locations) to wards, work shifts, etc.
- Managing of mobile devices DECT / PS.
- ...

Software conditions

- Windows 2000/XP operating system
- 10/100 MBit LAN access

The use of the SystemOrganizer is described in the online help for the programme.

11. Functional checks

- Check each room for possible faults
- Test light call function from each room
- Test functions between the rooms.
- Test the ward console
- Test mobile console
- Test central console
- Test functions between the wards

NOTE! National standards for nurse call systems in the relevant countries must be complied with.

NOTE! If the nurse call system shall comply with the German standard DIN VDE 0834, then all tests and checks must be executed as prescribed in this standard. Note: The tests and checks as prescribed by DIN VDE 0834 may go beyond the tests and checks as described in this manual.

Checking the room installation

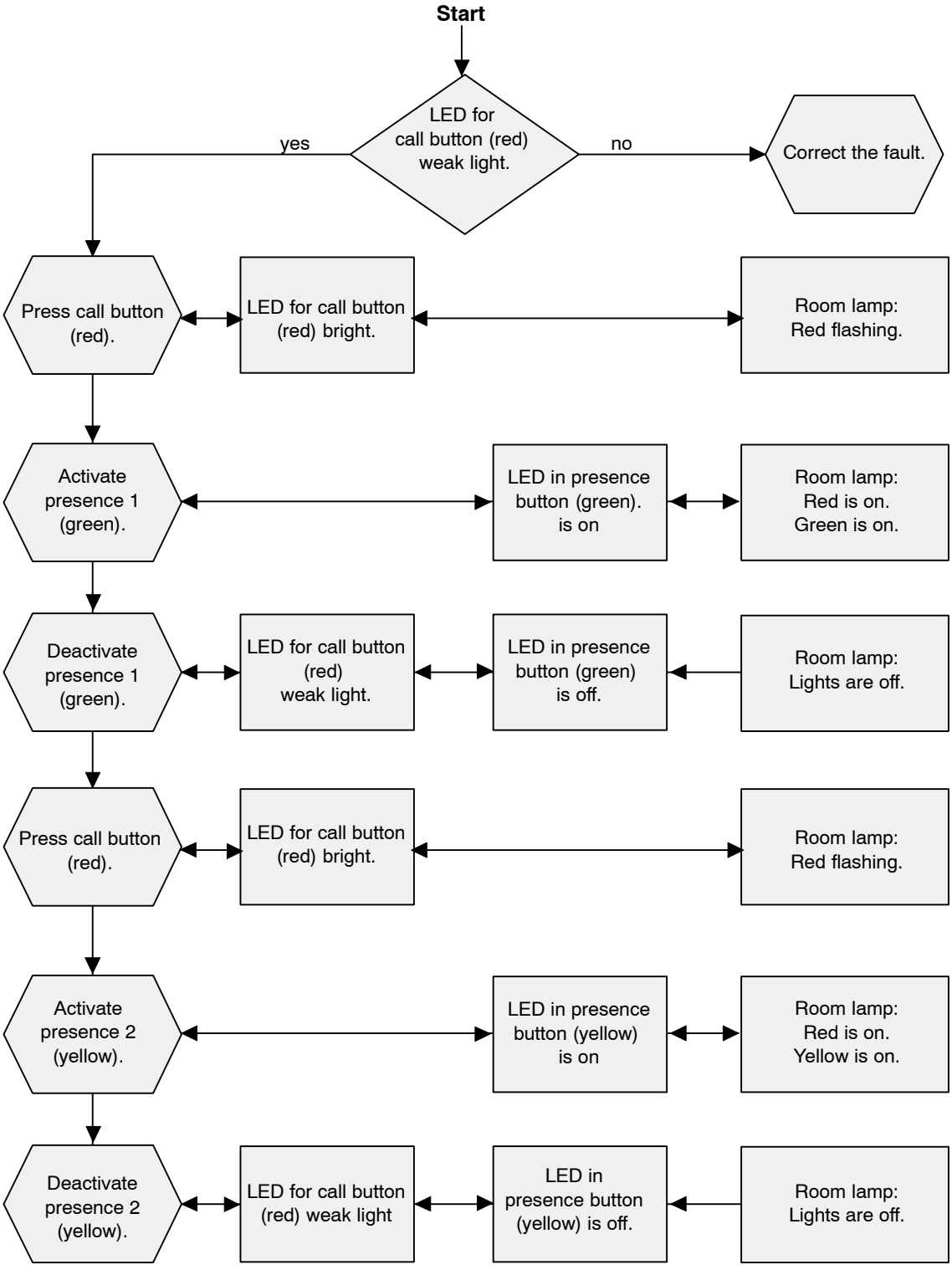
Checking every room for faults

- Perform the test CCS and RAN at the room's ComTerminal as prescribed in the product leaflet for the ComTerminal.
- No fault may be indicated at any of these devices for the room: ComStation^{PC}, ManagementCenter^{PC}, OSYnet-SafetyController (output for fault messages).
- Use the patient handset or the pear push switch to check for correct light switching.
- Use the patient handset to check for correct radio reception and TV sound.

Check light call function from each room

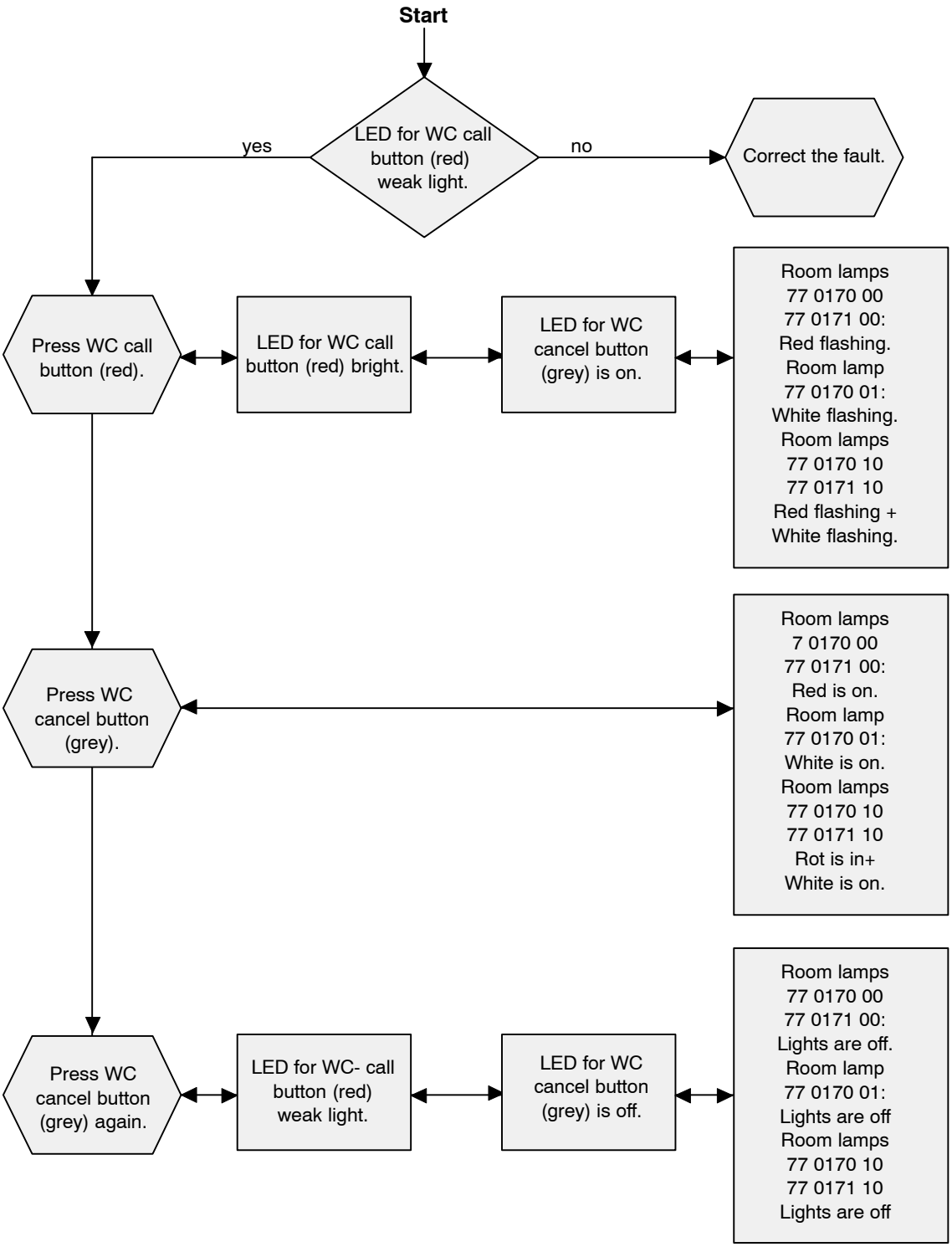
Check each room

The following test is performed to check all call devices in the room:


Start
LED for call button (red) weak light.
yes
no
Correct the fault.
Press call button (red).
LED for call button (red) bright.
Room lamp: Red flashing.
Activate presence 1 (green).
LED in presence button (green). is on
Room lamp: Red is on. Green is on.
Deactivate presence 1 (green).
LED for call button (red) weak light.
LED in presence button (green) is off.
Room lamp: Lights are off.
Press call button (red).
LED for call button (red) bright.
Room lamp: Red flashing.
Activate presence 2 (yellow).
LED in presence button (yellow) is on
Room lamp: Red is on. Yellow is on.
Deactivate presence 2 (yellow).
LED for call button (red) weak light
LED in presence button (yellow) is off.
Room lamp: Lights are off.

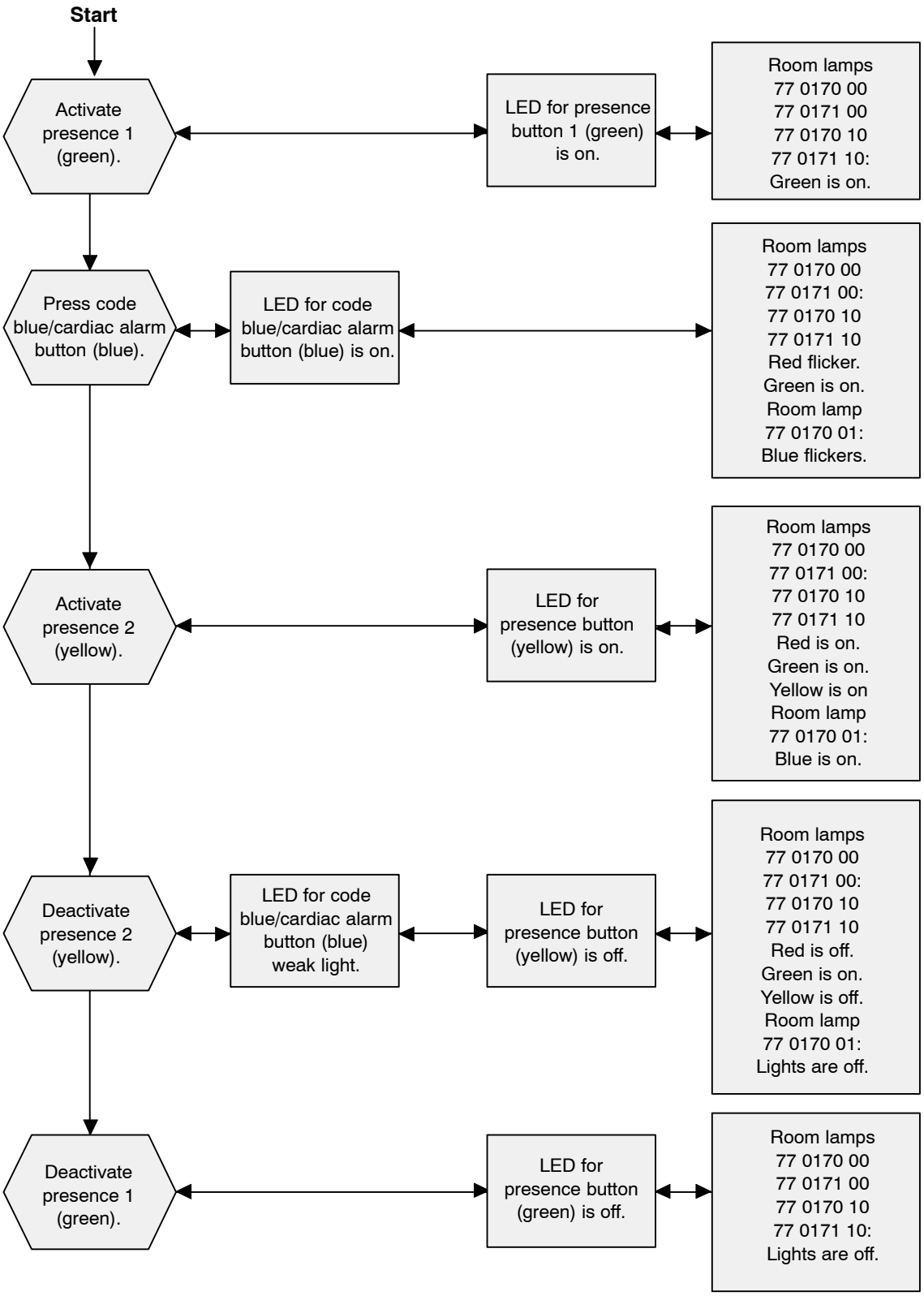
Check function from WCs en suite to room

The following test is performed to check all call devices from WCs en suite to rooms:


Start
LED for WC call button (red) weak light.
yes
no
Correct the fault.
Press WC call button (red).
LED for WC call button (red) bright.
LED for WC cancel button (grey) is on.
Room lamps 77 0170 00 77 0171 00: Red flashing. Room lamp 77 0170 01: White flashing. Room lamps 77 0170 10 77 0171 10 Red flashing + White flashing.
Press WC cancel button (grey).
Room lamps 7 0170 00 77 0171 00: Red is on. Room lamp 77 0170 01: White is on. Room lamps 77 0170 10 77 0171 10 Rot is in+ White is on.
Press WC cancel button (grey) again.
LED for WC- call button (red) weak light.
LED for WC cancel button (grey) is off.
Room lamps 77 0170 00 77 0171 00: Lights are off. Room lamp 77 0170 01: Lights are off Room lamps 77 0170 10 77 0171 10 Lights are off

Testing of code blue / cardiac alarm

The following test is performed for the code blue/cardiac alarm button at the ComTerminal and for all separate code blue/cardiac alarm switches:


Start
Activate presence 1 (green).
LED for presence button 1 (green) is on.
Room lamps 77 0170 00 77 0171 00 77 0170 10 77 0171 10: Green is on.
Press code blue/cardiac alarm button (blue).
LED for code blue/cardiac alarm button (blue) is on.
Room lamps 77 0170 00 77 0171 00: 77 0170 10 77 0171 10 Red flicker. Green is on. Room lamp 77 0170 01: Blue flickers.
Activate presence 2 (yellow).
LED for presence button (yellow) is on.
Room lamps 77 0170 00 77 0171 00: 77 0170 10 77 0171 10 Red is on. Green is on. Yellow is on Room lamp 77 0170 01: Blue is on.
Deactivate presence 2 (yellow).
LED for code blue/cardiac alarm button (blue) weak light.
LED for presence button (yellow) is off.
Room lamps 77 0170 00 77 0171 00: 77 0170 10 77 0171 10 Red is off. Green is on. Yellow is off. Room lamp 77 0170 01: Lights are off.
Deactivate presence 1 (green).
LED for presence button (green) is off.
Room lamps 77 0170 00 77 0171 00 77 0170 10 77 0171 10: Lights are off.

Checking the ward functions

Call forwarding

When a call is not answered within a programmed time frame, it will be forwarded to all rooms with activated presence states. Forwarded calls are presented on the display at the ComTerminal, and a tone also signals such calls.

Refer to the operating instructions for the ComTerminal for details on the handling of forwarded calls.

Check for each room:

- Is the call forwarding tone audible at the ComTerminal?
- Does the display of the ComTerminals show the correct room number?
- Can the call be answered? Can a speech connection be established to the call location?
- Can normal calls be cancelled from the remote position?

Corridor display

Check whether calls in the ward are correctly indicated at the corridor display.

Direction lamps

Check each direction lamp for the correct indication of the direction for the allocated rooms.

Call devices

Check whether calls from additional call devices (e.g. radio triggers and pear push switches) are indicated as desired.

Checking the consoles

Perform this test for all installed consoles: Ward consoles, mobile consoles, central consoles. For information on the correct operation and use of the consoles refer to the relevant operating instructions.

Two persons are required for executing these checks. One person will handle the console, and the other person will proceed from one room to another.

Checks for each room:

- Is the room number correctly displayed?
- Do all types of calls arrive at the console and are they signalled in the appropriate manner (e.g. normal call, WC call, diagnostic call, emergency call 1, emergency call 2, WC call, WC emergency call, code blue / cardiac alarm)?
- Are bed numbers (channel numbers) correctly presented?
- Can calls be answered at the console?
- Can a speech connection be established with the console via voice devices (ComTerminal, patient handset)?
- Are presence states correctly displayed?
- Can announcements be broadcast from the console?

NOTE! If you note that a false bed number has been set at the connection socket combi bedhead unit, the medical supply unit must be opened in order to set the correct number (refer to documents on the medical supply unit).

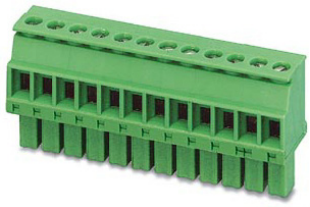
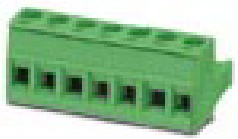
Checking functions between wards

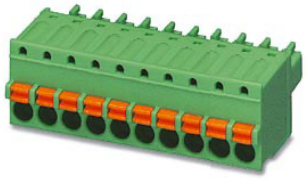
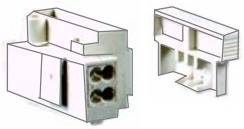
Check:

- Can ward coupling be realised at the ward console?
- Correct function of group lamps.

12. Spare parts

Functions	Order No.	
Terminating resistor 120 Ohm as bus terminating element in the final bus device.	**00 0040 76**	
Fuse 1 A F e.g. for connection socket ComTerminal, corridor display Alpha 16, corridor display Alpha 16, double-sided.	**00 0130 24**	
Mains fuse, front plate (5 x 20) T 5.0 A for power supply unit and power supply unit UPS.	**00 0130 41**	
Output fuse, bottom 15 A FKS for power supply unit and power supply unit UPS.	**00 0132 02**	
Battery fuse, internal 20 A FKS for power supply unit UPS.	**00 0132 03**	
Push-wire connector for junction boxes, 5-pole e.g. for connection socket ComStation. Wire diameter: 0.8 - 1.8 mm	**00 0210 21**	
Screw connecting clamp, 6-pole for OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	**00 0211 32**	
Screw connecting clamp, voltage supply, 4-pole for OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal and for OSY-ControlCenter (DC/DC converter).	**00 0211 33**	

Functions	Order No.	
Screw connecting clamp, 4-pole for OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	**00 0211 36**	
Screw connecting clamp, 5-pole for OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	**00 0211 37**	
Screw connecting clamp, 12-pole for OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	**00 0211 38**	
Clamp for control and indicator outputs, 7-pole for power supply unit and power supply unit UPS.	**00 0211 39**	
Clamp for mains connection, 3-pole for power supply unit and power supply unit UPS.	**00 0211 40**	
Clamp for 24 V connection, 4-pole for power supply unit and power supply unit UPS.	**00 0211 41**	
Cage clamp for data and audio wires, 4-pole for OSY-ControlCenter.	**00 0211 42**	

Functions	Order No.	
Cage clamp for data and audio wires, 6-pole for OSY-ControlCenter.	**00 0211 43**	
Cage clamp for data and audio wires, 10-pole for OSY-ControlCenter.	**00 0211 44**	
Push-wire connector for junction boxes, 4-pole e.g. for connection socket ComStation, connection socket ComTerminal. Wire diameter: 0.6 - 0.8 mm	**00 0222 88**	
Bridging contact EB 2 - 5 for control clamps “x“ and “y“ for power supply unit UPS.	**00 0223 56**	
Plug-in screw terminal with fuse holder e.g. for corridor display Alpha 16, corridor display Alpha 16, double-sided.	**00 0224 81**	
LED module, red for group lamps, direction lamps.	**13 5200 00**	
LED module, green for group lamps, direction lamps.	**13 5202 00**	
Connecting cable e.g. for connection socket with call switch.	**50 0308 02**	

Functions	Order No.	
Connector, 3-pole for switches and room lamps.	**70 0807 00**	
Connector, 4-pole for connection socket with call switch.	**70 0807 01**	
Fixing clamp for switches.	**70 0808 00**	
Overvoltage protection circuit	**70 0890 97**	

Functions	Order No.	
LED module, red for room lamps.	**77 0190 00**	
LED module, yellow for room lamps.	**77 0190 01**	
LED module, green for room lamps.	**77 0190 02**	
LED module, white for room lamps.	**77 0190 03**	
LED module, blue for room lamps.	**77 0190 04**	
OSYnet connecting plug for OSYnet-Y-RepeaterOpto.	**77 0950 00**	

13. Product leaflets

Each device is furnished with a product leaflet with information on mounting and connection details. In addition, we have collated the relevant product leaflets in this chapter of the technical manual. Mount and install the devices as indicated on the connection plan on the product leaflet.

WARNING! Do not install the power supply unit at this time. The mounting and installation of the various devices and equipment shall be executed with no electric power in the system. Otherwise there is the ever present danger of a short-circuit situation!

NOTE! Check that the order no. on the products is the same as the order no. on the product leaflets. Example: Switches for WC call have the same housing as the switches for normal call, however, they are programmed differently.

Display equipment		Page:
77 0112 02	Group lamp, 2 groups	4
77 0113 02	Group lamp, 3 groups	4
77 0114 02	Group lamp, 4 groups	4
77 0150 00	Corridor display Alpha 16	5 - 6
77 0160 00	Corridor display Alpha 16, double-sided	7 - 8
77 0170 00	Room lamp, 3 sections	9
77 0170 01	Room lamp, code blue/cardiac alarm, WC	9
77 0170 10	Room lamp, 4 sections	9
77 0171 00	Rom lamp, 3 sections, with doorplate	10
77 0171 10	Room lamp, 4 sections, with doorplate	10
77 0180 10	Room lamp Universal, 3 sections	11
77 0181 10	Room lamp Universal, 3 sections, with doorplate	12
Switch programme		Page:
70 0106 00	Pneumatic call switch	14
70 0106 01	Pneumatic call switch/WC	14
70 0111 00	Call switch wp	15
70 0111 01	Call switch/WC wp	15
70 0114 00	Code blue / Cardiac alarm switch wp	15
70 0112 00	Staff presence switch wp	16
70 0113 00	Cancel switch/WC wp	16
70 0115 00	Pull cord call switch wp	17
70 0115 01	Pull cord call switch/WC wp	17
70 0117 00	Call switch/WC with cancel switch wp	18
70 0118 00	Call switch with privacy switch wp	18

70 0183 00	Cancel switch/WC with call tone wp	19
Room terminals		Page:
74 0510 00	ComTerminal	22 - 23
Connection sockets		Page:
70 0171 03	Connection socket with call switch	26
70 0424 00	Connection socket combi	27 - 28
70 0434 00	Connection socket combi bedhead unit	29 - 30
70 0491 00	Connection socket ComTerminal	31 - 32
74 0452 50A	Connection socket ComStation	33 - 34
Consoles		Page:
77 0601 00	ComStation^{CT}, desktop unit	36
77 0602 00	ComStation^{PC}	37
Interfaces		Page:
70 0840 00	RAN interface normal call	40
70 0841 00	RAN interface code blue/cardiac alarm	40
70 0842 00	RAN interface telephone call	41
70 0860 00	RAN interface TV	42 - 43
70 0880 00	RAN interface with speech	44
77 0801 00	OSYlink-Door entry speaker	45 - 46
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77 0803 00	OSYlink-Universal	49 - 50
77 0804 00	OSYlink-Announcement	51 - 52
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70 0790 00	Sound detector	56
70 0812 00	Diagnostic connection cable	57
77 0901 00	Smoke detector	58
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77 2000 00	OSY-ControlCenter	60 - 63
77 2100 00	OSYnet-SafetyController	64 - 65
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77 3400 00	Power supply unit UPS	68 - 74
77 3401 00	Power supply unit	75 - 77
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77 4000 00	OSYnet-Y-RepeaterOpto	79
77 4001 00	OSYnet-Gateway	80

Display equipment

77 0112 02	Group lamp, 2 groups
77 0113 02	Group lamp, 3 groups
77 0114 02	Group lamp, 4 groups
77 0150 00	Corridor display Alpha 16
77 0160 00	Corridor display Alpha 16, double-sided
77 0170 00	Room lamp, 3 sections
77 0170 01	Room lamp, code blue/cardiac alarm, WC
77 0170 10	Room lamp, 4 sections
77 0171 00	Rom lamp, 3 sections, with doorplate
77 0171 10	Room lamp, 4 sections, with doorplate
77 0180 10	Room lamp Universal, 3 sections
77 0181 10	Room lamp Universal, 3 sections, with doorplate

Installationsanleitung D

Gruppenleuchte, 2-teilig, Best.-Nr. 77 0112 02
Gruppenleuchte, 3-teilig, Best.-Nr. 77 0113 02
Gruppenleuchte, 4-teilig, Best.-Nr. 77 0114 02
Signalleuchte für mehrere Gruppen zur gruppenbezogenen Signalisierung von Rufen. (2-teilig: 2 Gruppen, 3-teilig: 3 Gruppen, 4-teilig: 4 Gruppen) Je Gruppe stehen zwei Einzelleuchtfelder (rot und grün) mit Anschlussmöglichkeiten zur Signalisierung von Rufen und Rufstatus zur Verfügung. Inkl. LED-Module.

Abmessungen (HxBxT) ohne Montagerahmen:
2-teilig: 60 x 86 x 70 mm
3-teilig: 240 x 86 x 70 mm
4-teilig: 320 x 86 x 70 mm

Betriebsstrom pro Leuchtfeld: 20 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Installation Instructions GB

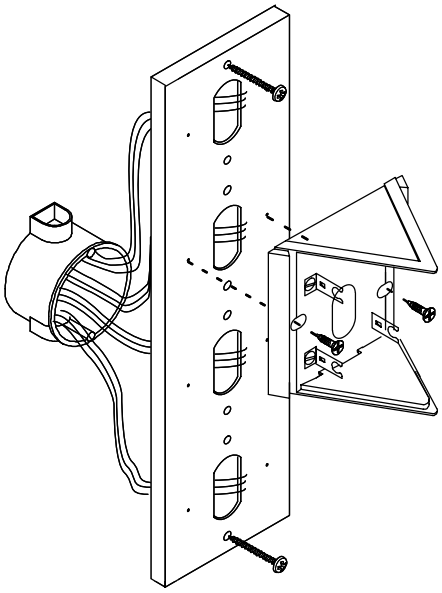
Group lamp, 2 groups, order no. 77 0112 02
Group lamp, 3 groups, order no. 77 0113 02
Group lamp, 4 groups, order no. 77 0114 02
Signal lamps for several groups for group related display of calls: 2 groups, 3 groups or 4 groups. Two single sections (red and green) per group with connection possibilities for signalling of calls and call status.

Dimensions (HxWxD) without mountig frame:
2 groups: 160 x 86 x 70 mm
3 groups: 240 x 86 x 70 mm
4 groups: 320 x 86 x 70 mm

Operating current per light section: 20 mA

Note! The complete installation of the system is described in the technical manual.

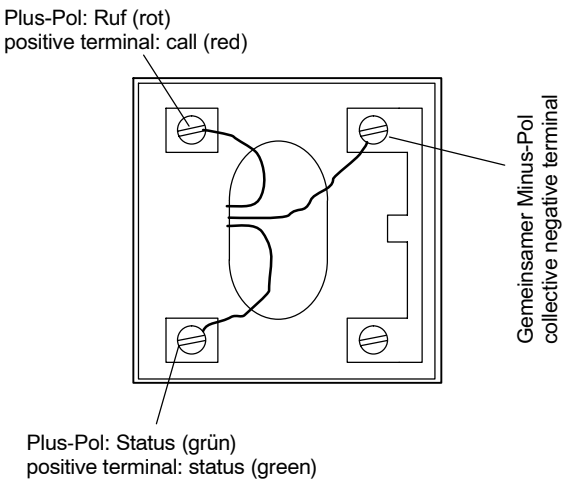
A



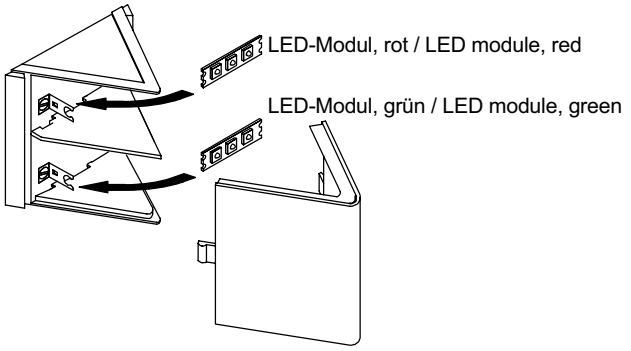
Einbaudose und Befestigungsschrauben für die Wandmontage nicht im Lieferumfang.
Back box and fixing screws for wall mounting not included in delivery.

B

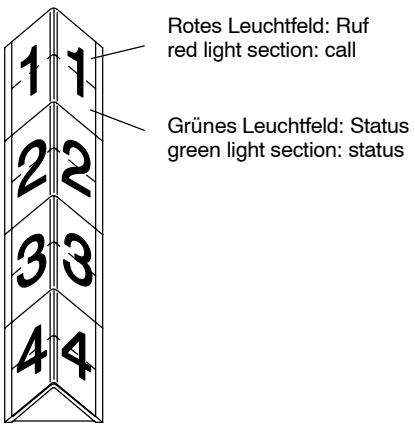
Anschlüsse / Connections:



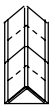
C



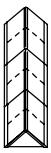
D



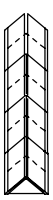
77 0112 02
Gruppenleuchte, 2-teilig
Group lamp, 2 groups



77 0113 02
Gruppenleuchte, 3-teilig
Group lamp, 3 groups



77 0114 02
Gruppenleuchte, 4-teilig
Group lamp, 4 groups



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CE

Installationsanleitung D

Flurdisplay Alpha 16, Best.-Nr. 77 0150 00

Display zur alphanumerischen Anzeige von Rufen und allgemeinen Systeminformationen.

- 16 Zeichen alphanumerisch
- Automatische Anzeige als Laufschrift bei längeren Texten
- Tongeber zur Anzeige von nachgesendeten Rufen
- Lautsprecher z.B. für Durchsagen und Signaltöne
- Stromaufnahme: 300 mA (Durchschnitt)

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Adresse einstellen (1 - 110)

Zum Einstellen der Adresse dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Wenn die Adresse während des Betriebs geändert wird, muss anschließend ein **Reset** durchgeführt werden. Für den Reset Codierschalter 10 für eine Sekunde auf ON setzen.

B Montage

Das Flurdisplay ist vorgesehen zur Montage in Fluren oder Diensträumen.

Das mitgelieferte Zubehör dient zur Deckenmontage.

Installation Instructions GB

Corridor Display Alpha 16, order no. 77 0150 00

Display for alphanumeric indication of calls and general system information.

- 16 digits, alphanumeric
- Longer texts are automatically displayed as ticker
- Buzzer for signalling forwarded calls
- Loudspeaker, e.g. for announcements or signal tones
- Supply current: 300 mA (average)

Note! The complete installation of the system is described in the technical manual.

A Setting of address (1 - 110)

For setting the address please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

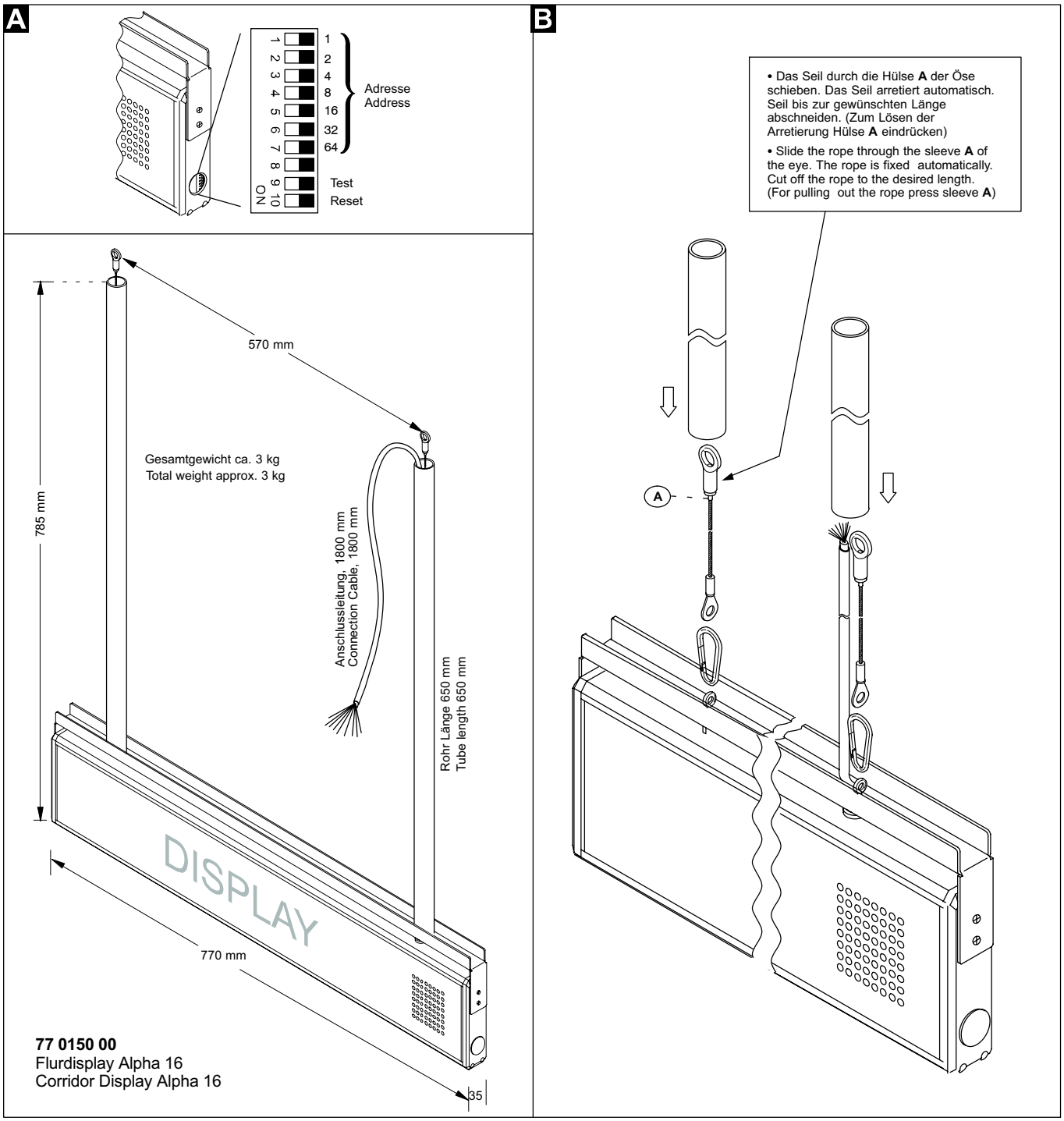
Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

After the address is changed while system operation a **reset** has to be made. For the reset set code switch 10 for one second to ON.

B Mounting

The corridor display is designed for mounting in corridors or duty rooms.

The standard accessory is used for ceiling mounting.



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CE

Anschlüsse D

C Anschluss

Das Flurdisplay wird direkt an den Gruppenbus OSYnet angeschlossen. Die freien Drahtenden der Anschlussleitung dienen zum bauseitigen Anschluss.

D Funktionstest

Wenn das Flurdisplay angeschlossen ist, sollte ein Funktionstest durchgeführt werden.

- Zum Starten des Funktionstest Codierschalter 9 “Test” auf ON setzen.

Das Display durchläuft nun die im Folgenden beschriebenen Testschritte. Jeder Schritt dauert ca. 2 Sekunden.

Display zeigt:	Test ok, wenn...	Was wird getestet?
Start Test	*Funktionstest startet.*	
Tunstall GmbH Display Check 0123456789abcdef	Die 3 Texte werden nacheinander angezeigt.	Optische Anzeige.
Buzzer test	*Tongeber-Test startet.*	
Buzzer: low	Leiser Signalton ertönt.	Tongeber-Einstellung “leise”
Buzzer: medium	Mittel-lauter Signalton ertönt.	Tongeber-Einstellung “mittel”
Buzzer: loud	Lauter Signalton ertönt.	Tongeber-Einstellung “laut”
Buzzer OFF	*Tongeber wird ausgeschaltet.*	
Speech relay 1 ON	Leises Klicken eines Relais ist zu hören.	Sprechkanal 1 der Rufanlage
Speech relay 2 ON	Leises Klicken eines Relais ist zu hören.	Sprechkanal 2 der Rufanlage
Speech relays OFF	Klicken von Relais ist zu hören.	Sprechkanäle werden geschlossen.
**IIII

Installationsanleitung D

Flurdisplay Alpha 16, doppelseitig, Best.-Nr. 77 0160 00

Doppeldisplay zur alphanumerischen Anzeige von Rufen und allgem. Systeminformationen.

- 16 Zeichen alphanumerisch
- Automatische Anzeige als Laufschrift bei längeren Texten
- Tongeber zur Anzeige von nachgesendeten Rufen
- Lautsprecher z.B. für Durchsagen und Signaltöne
- Stromaufnahme: 600 mA (Durchschnitt)

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Montage

Das Doppeldisplay ist vorgesehen zur Montage in Fluren oder Diensträumen.

Das mitgelieferte Zubehör dient zur Deckenmontage.

Installation Instructions GB

Corridor Display Alpha 16, double-sided, order no. 77 0160 00

Double display for alphanumeric indication of calls and general system information.

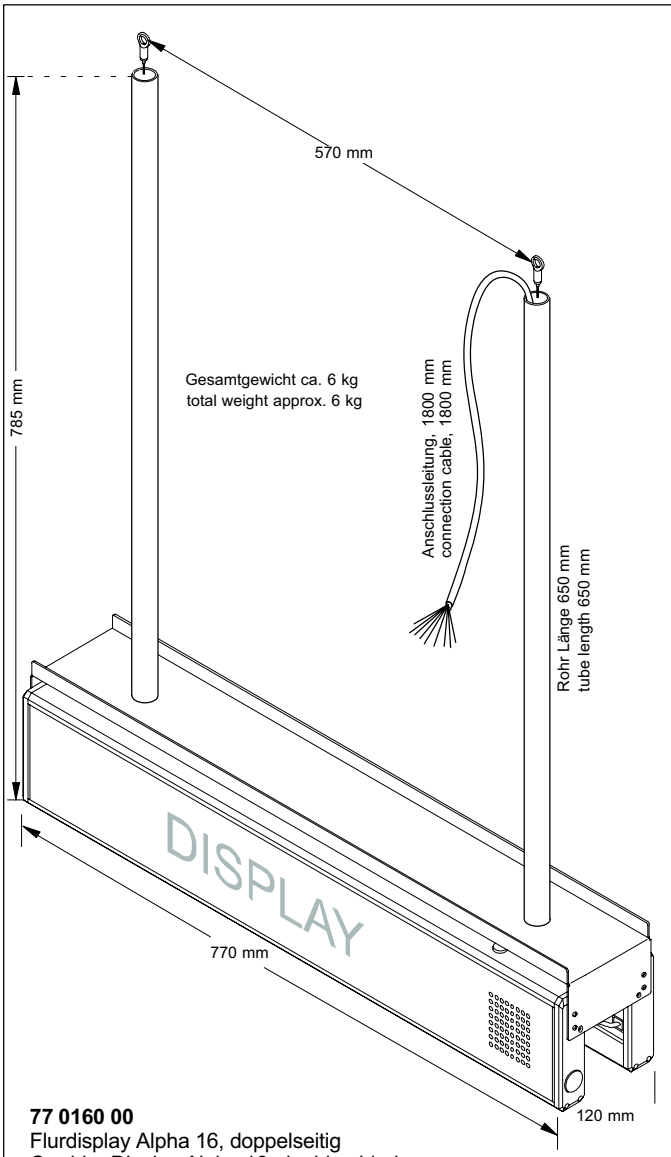
- 16 digits, alphanumeric
- Longer texts are automatically displayed as ticker
- Tone generator for signalling forwarded calls
- Loudspeaker, e.g. for announcements or signal tones
- Supply current: 600 mA (average)

Note! The complete installation of the system is described in the technical manual.

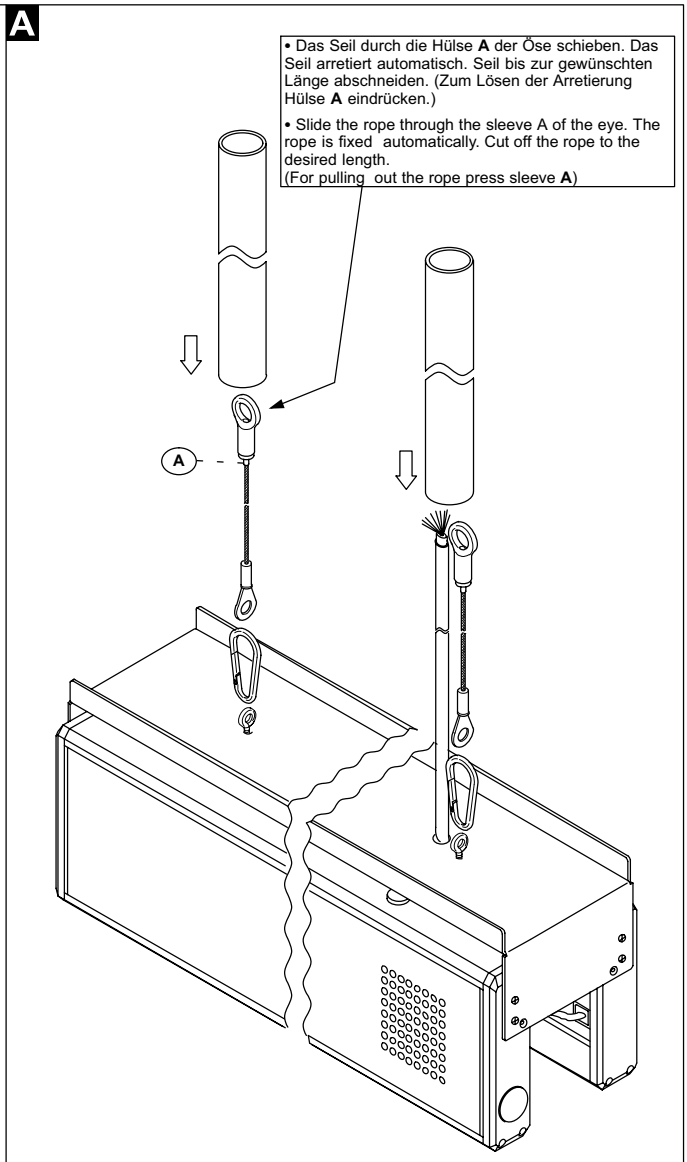
A Mounting

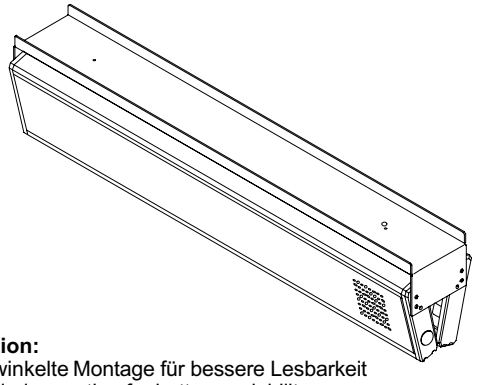
The double display is designed for mounting in corridors or duty rooms.

The standard accessory is used for ceiling mounting.

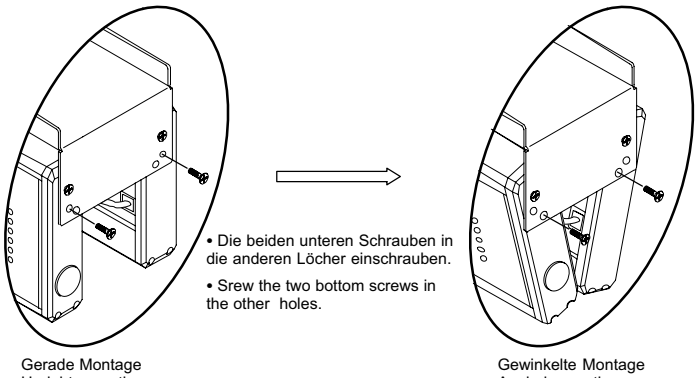


77 0160 00
Flurdisplay Alpha 16, doppelseitig
Corridor Display Alpha 16, double-sided


A
• Das Seil durch die Hülse **A** der Öse schieben. Das Seil arretiert automatisch. Seil bis zur gewünschten Länge abschneiden. (Zum Lösen der Arretierung Hülse **A** eindrücken.)
• Slide the rope through the sleeve A of the eye. The rope is fixed automatically. Cut off the rope to the desired length.
(For pulling out the rope press sleeve **A**)



Option:
Gewinkelte Montage für bessere Lesbarkeit
Angled mounting for better readability


• Die beiden unteren Schrauben in die anderen Löcher einschrauben.
• Srew the two bottom screws in the other holes.
Gerade Montage
Upright mounting
Gewinkelte Montage
Angled mounting

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CE

Anschlüsse D

B Anschluss

Das Doppeldisplay wird direkt an den Gruppenbus OSYnet angeschlossen. Die freien Drahtenden der Anschlussleitung dienen zum bauseitigen Anschluss.

C Adresse einstellen (1 - 110)

In einem der beiden Displays befindet sich hinter der seitlichen Schutzkappe ein 10-teiliger Codierschalter. Zum Einstellen der Adresse dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Wenn die Adresse während des Betriebs geändert wird, muss anschließend ein **Reset** durchgeführt werden. Für den Reset Codierschalter 10 für eine Sekunde auf ON setzen.

D Funktionstest

Nach dem Anschließen des Doppeldisplays sollte ein Funktionstest durchgeführt werden.

- Zum Starten des Funktionstest Codierschalter 9 “Test” auf ON setzen.

Das Display durchläuft nun die im Folgenden beschriebenen Testschritte. Jeder Schritt dauert ca. 2 Sekunden. Sie müssen den Test zweimal durchführen, d.h. jeweils ein Display beobachten.

Display zeigt:	Test ok, wenn...	Was wird getestet?
Start Test	*Funktionstest startet.*	
Tunstall GmbH Display Check 0123456789abcdef	Die 3 Texte werden nacheinander angezeigt.	Optische Anzeige.
Buzzer test	*Tongeber-Test startet.*	
Buzzer: low	Leiser Signalton ertönt.	Tongeber-Einstellung “leise”
Buzzer: medium	Mittel-lauter Signalton ertönt.	Tongeber-Einstellung “mittel”
Buzzer: loud	Lauter Signalton ertönt.	Tongeber-Einstellung “laut”
Buzzer OFF	*Tongeber wird ausgeschaltet.*	
Speech relay 1 ON	Leises Klicken eines Relais ist zu hören. 1)	Sprechkanal 1 der Rufanlage
Speech relay 2 ON	Leises Klicken eines Relais ist zu hören.1)	Sprechkanal 2 der Rufanlage
Speech relays OFF	Klicken von Relais ist zu hören.1)	Sprechkanäle werden geschlossen.
**IIII

Installationsanleitung D

Zimmerleuchte, 3-teilig, Best.-Nr. 77 0170 00
zur optischen Anzeige von allen Rufarten und Personalanwesenheiten. Wandmontage.

Zimmerleuchte Alarm, WC, Best.-Nr. 77 0170 01
als Ergänzung zu Zimmerleuchte 77 0170 00 zur optischen Anzeige von Alarm- und/oder WC-Rufen. Wandmontage wahlweise vor der Zimmertür neben Zimmerleuchte 77 0170 00 zur eindeutigen Anzeige von WC- und/oder Alarmruf, oder Montage im Zimmer am WC-Eingang, um die Richtung zum WC-Ruf anzuzeigen.

Zimmerleuchte, 4-teilig, Best.-Nr. 77 0170 10
zur optischen Anzeige von allen Rufarten und Personalanwesenheiten sowie zusätzliche Anzeige für WC-Ruf. Wandmontage

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

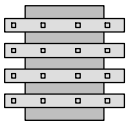
Achtung! Die Leiterplatte und die LED -Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

1*	Einbaudose	**5**	Dekorrahmen
2	Gehäuse-Rückwand	**6**	Befestigungsschrauben
3*	Anschlussklemme (70 0807 00)	**7**	Lichtkuppel mit Trenneinsatz
4	Leiterplatte mit LED-Modulen	* ist nicht im Lieferumfang enthalten.	

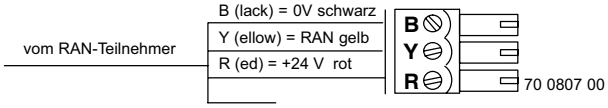
1. Gehäuse-Rückwand **2** mit den Schrauben der Einbaudose an der Einbaudose **1** festschrauben. Einbaurichtung beachten, siehe Markierung im Gehäuse.
2. Angeschlossene Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte **4** stecken.
3. Leiterplatte **4** in die Gehäuse-Rückwand **2** einsetzen (erst oben, dann unten). Dabei die beiden Löcher unten in der Leiterplatte **4** auf die Arretierungsstifte der Gehäuse-Rückwand **2** stecken.
4. LED-Module gemäß der folgenden Übersicht auf die Leiterplatte stecken.
5. Dekorrahmen **5** mit den Befestigungsschrauben **6** auf die Gehäuse-Rückwand **2** schrauben.
6. Lichtkuppel mit Trenneinsatz **7** auf den Dekorrahmen **5** drücken bis sie einrastet.

Farben der LED-Module



77 0170 00	77 0170 01	77 0170 10
rot: Rufe	blau: Alarmruf	rot: Rufe
grün: Personal 1	blau: Alarmruf	grün: Personal 1
gelb: Personal 2	weiß: WC-Ruf	gelb: Personal 2
kein LED-Modul	kein LED-Modul	weiß: WC-Ruf

Anschluss Zimmerbus (RAN) ohne Sprechen



Bei der Einstellung der RAN-Anzahl am ComTerminal muss beachtet werden: Die **Zimmerleuchte, 4-teilig, Best.-Nr. 77 0170 10**, entspricht zwei Zimmergeräten, d.h. ihre RAN-Anzahl beträgt nicht 1 sondern 2.

B Kanalcodierung

Die Zimmerleuchten können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden. Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem entsprechenden Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

—— ⊣⊢ ⊣⊢ = 6

—— = werkseitig verbunden

⊣⊢ = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

Lichtkuppel von oben und unten leicht zusammendrücken und dann abziehen.

Installation Instructions GB

Room lamp, 3 sections, order no. 77 0170 00
for optical signalling of all call types and staff presences. Wall mounting.

Room lamp code blue / cardiac alarm, WC, order no. 77 0170 01
as complement to room lamp 77 0170 00 for optical signalling of code blue / cardiac alarm and or WC calls. Wall mounting either in the corridor be-sides the room lamp 77 0170 00 for explicit signalling of WC calls and/or code blue/cardiac alarm or it is installed besides the WC door in the patient room for displaying the direction to the WC call.

Room lamp, 4 sections, order no. 77 0170 10
for optical signalling of all call types and staff presences as well as additional display for WC call. Wall mounting.

Note! The complete installation of the system is described in the technical manual.

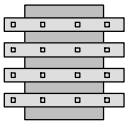
Attention! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

A Mounting

1*	Back box	**5**	Decorative frame
2	Pattress	**6**	Fixing screws
3*	Connector (70 0807 00)	**7**	Light dome with insert module
4	Printed circuit board (PCB) with LED modules	* not included with product delivery.	

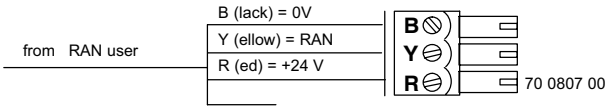
1. Fit the pattress **2** with the back box screws to the back box **1**. For the correct mounting direction refer to the markings in the pattress.
2. Plug the pre-connected connector **3** into the socket on the PCB **4**.
3. Put the PCB **4** into the pattress **2** (first the top, then the bottom). The two holes on the base of the PCB must fit onto the fixing pins of the pattress **2**.
4. Plug the LED modules onto the PCB according to the following overview.
5. Fit the decorative frame **5** with the fixing screws **6** onto the pattress **2**.
6. Press the light dome with the insert module **7** onto the decorative frame **5** until it locks in place.

LED module colours



77 0170 00	77 0170 01	77 0170 10
red: calls	blue: code blue/cardiac alarm	red: calls
green: staff 1	blue: code blue/cardiac alarm	green: staff 1
yellow: staff 2	white: WC call	yellow: staff 2
no LED module	no LED module	white: WC call

Connection of room bus (RAN) without speech



When setting the RAN number in the ComTerminal take into account: **Room lamp, 4 sections, order no. 77 0170 10,** is equivalent to two room devices, i.e. its RAN number is not 1 but 2.

B Channel coding

If functional units are requested, the room lamps have to be assigned to different channels. The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

—— ⊣⊢ ⊣⊢ = 6

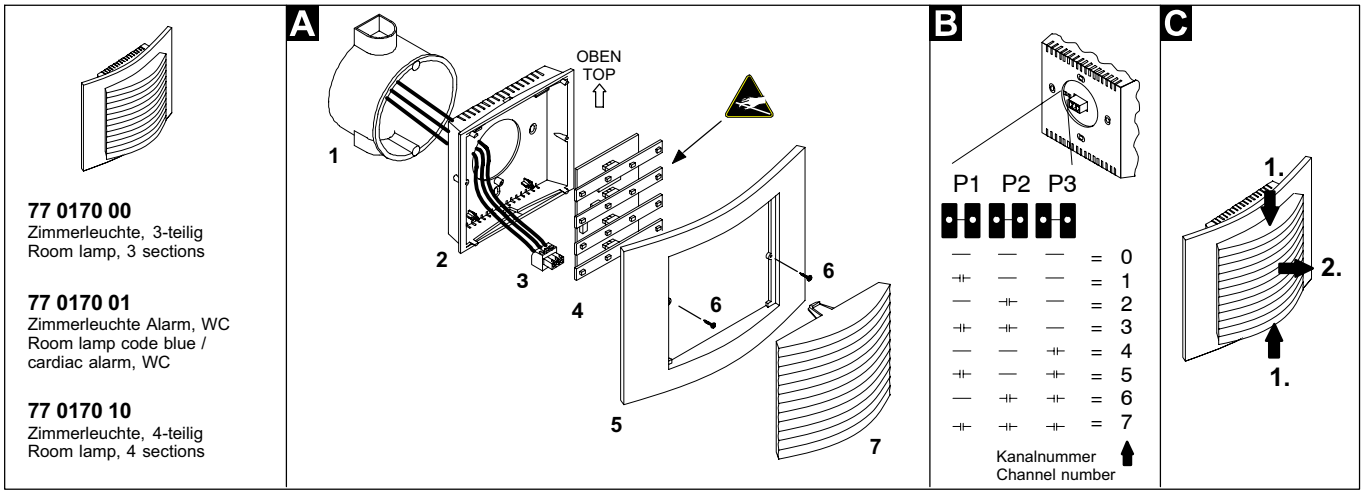
—— = pre-set link

⊣⊢ = broken link

= Solder point
to reconnect a broken link

C Dismantling

Compress and pull off the light dome.



77 0170 00
Zimmerleuchte, 3-teilig
Room lamp, 3 sections

77 0170 01
Zimmerleuchte Alarm, WC
Room lamp code blue / cardiac alarm, WC

77 0170 10
Zimmerleuchte, 4-teilig
Room lamp, 4 sections

CE

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Installationsanleitung D

Zimmerleuchte, 3-teilig, mit Türschild, Best.-Nr. 77 0171 00
zur optischen Anzeige von allen Rufarten und Personalanwesenheiten. Türschild als Beschriftungsfeld für die Raumbezeichnung. Wandmontage.

Zimmerleuchte, 4-teilig, mit Türschild, Best.-Nr. 77 0171 10
wie 77 0171 00, jedoch zusätzlich Anzeige des WC-Rufs.

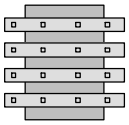
Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.
Achtung! Die Leiterplatte und die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

1*	Einbaudose	**6**	Befestigungsschrauben
2	Gehäuse-Rückwand	**7**	Lichtkuppel mit Trenneinsatz
3*	Anschlussklemme (70 0807 00)	**8***	Namensschild (Höhe x Breite: 70 x 92 mm)
4	Leiterplatte mit LED-Modulen	**9**	Schutzabdeckung
5	Dekorrahmen	* ist nicht im Lieferumfang enthalten.	

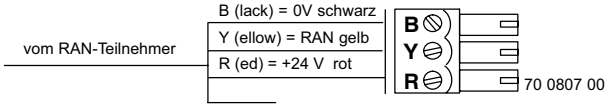
1. Gehäuse-Rückwand **2** mit den Schrauben der Einbaudose an der Einbaudose **1** festschrauben. Einbaurichtung beachten, siehe Markierung im Gehäuse.
2. Angeschlossene Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte **4** stecken.
3. Leiterplatte **4** in die Gehäuse-Rückwand **2** einsetzen (erst oben, dann unten). Dabei die beiden Löcher unten in der Leiterplatte **4** auf die Arretierungsstifte der Gehäuse-Rückwand **2** stecken.
4. LED-Module gemäß der folgenden Übersicht auf die Leiterplatte stecken.
5. Dekorrahmen **5** mit den Befestigungsschrauben **6** auf die Gehäuse-Rückwand **2** schrauben.
6. Lichtkuppel mit Trenneinsatz **7** auf den Dekorrahmen **5** drücken bis sie einrastet.
7. Namenschild **8** und Schutzabdeckung **9** einlegen.

Farben der LED-Module



77 0171 00	77 0171 10
rot: Rufe	rot: Rufe
grün: Personal 1	grün: Personal 1
gelb: Personal 2	gelb: Personal 2
kein LED-Modul	weiß: WC-Ruf

Anschluss Zimmerbus (RAN) ohne Sprechen



Bei der Einstellung der RAN-Anzahl am ComTerminal muss beachtet werden: Die **Zimmerleuchte, 4-teilig, mit Türschild, Best.-Nr. 77 0171 10**, entspricht zwei Zimmergeräten, d.h. ihre RAN-Anzahl beträgt nicht 1 sondern 2.

B Kanalcodierung

Die Zimmerleuchten können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden. Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.
Die einzustellende Kanalnummer entnehmen Sie dem entsprechenden Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

—— ⊣⊢ ⊣⊢ = 6

—— = werkseitig verbunden

⊣⊢ = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

Lichtkuppel von oben und unten leicht zusammendrücken und dann abziehen.

Installation Instructions GB

Room lamp, 3 sections, with doorplate, order no. 77 0171 00
for optical signalling of all call types and staff presences. Doorplate as label field for room designation. Wall mounting.

Room lamp, 4 sections, with doorplate, order no. 77 0171 10
as 77 0171 00, but additionally with display for WC call.

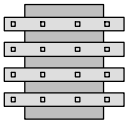
Note! The complete installation of the system is described in the technical manual.
Attention! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

A Mounting

1*	Back box	**6**	Fixing screws
2	Pattress	**7**	Light dome with insert module
3*	Connector (70 0807 00)	**8***	Label strip (hxw: 70 x 92 mm)
4	Printed circuit board (PCB) with LED modules	**9**	Protection cover
5	Decorative frame	* not included with product delivery.	

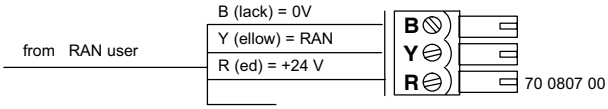
1. Fit the pattress **2** with the back box screws to the back box **1**. For the correct mounting direction refer to the markings in the pattress.
2. Plug the pre-connected connector **3** into the socket on the PCB **4**.
3. Put the PCB **4** into the pattress **2** (first the top, then the bottom). The two holes on the base of the PCB must fit onto the fixing pins of the pattress **2**.
4. Plug the LED modules onto the PCB according to the following overview.
5. Fit the decorative frame **5** with the fixing screws **6** onto the pattress **2**.
6. Press the light dome with the insert module **7** onto the decorative frame **5** until it locks in place.
7. Insert the label strip **8** and the protection cover **9**.

LED module colours



77 0171 00	77 0171 10
red: calls	red: calls
green: staff 1	green: staff 1
yellow: staff 2	yellow: staff 2
no LED module	white: WC call

Connection of room bus (RAN) without speech



When setting the RAN number in the ComTerminal take into account:
Room lamp, 4 sections, with doorplate, order no. 77 0171 10, is equivalent to two room devices, i.e. its RAN number is not 1 but 2.

B Channel coding

If functional units are requested, the room lamps have to be assigned to different channels. The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

—— ⊣⊢ ⊣⊢ = 6

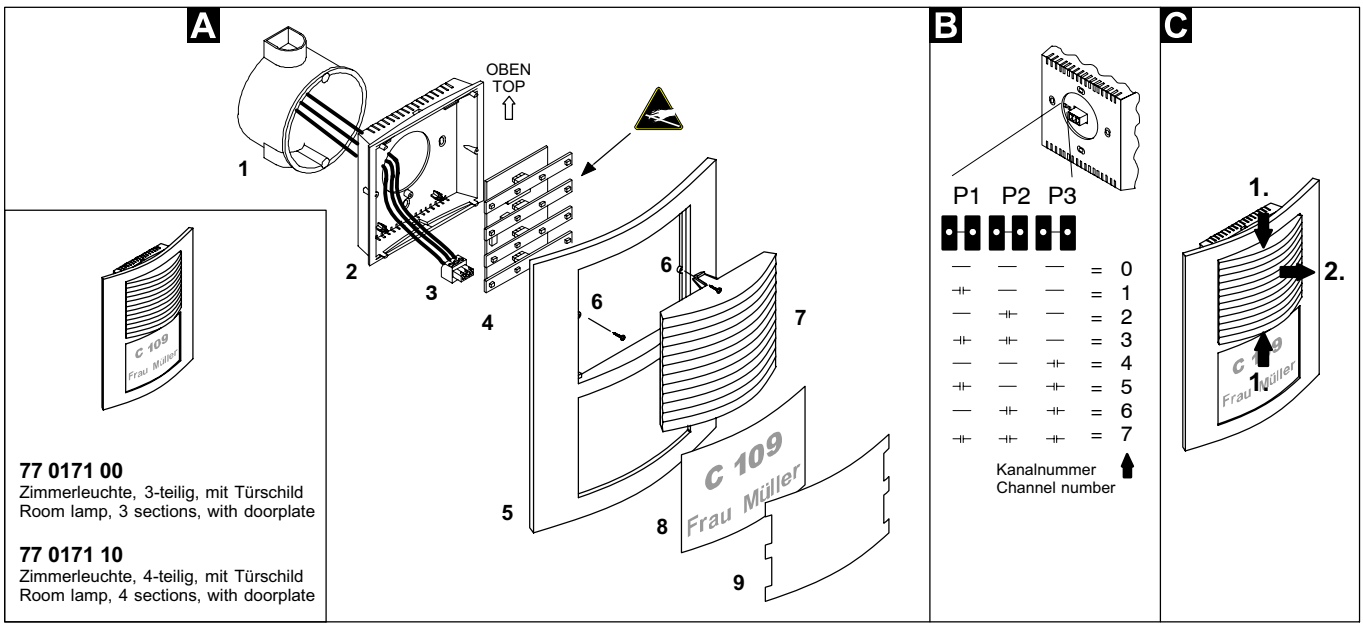
—— = pre-set link

⊣⊢ = broken link

= Solder point
to reconnect a broken link

C Dismantling

Compress and pull off the light dome.



77 0171 00
Zimmerleuchte, 3-teilig, mit Türschild
Room lamp, 3 sections, with doorplate

77 0171 10
Zimmerleuchte, 4-teilig, mit Türschild
Room lamp, 4 sections, with doorplate

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Installationsanleitung D

Zimmerleuchte Universal, 3-teilig, Best.-Nr. 77 0180 10
zur optischen Anzeige von allen Rufarten und Personalanwesenheit 1 sowie zusätzliche Anzeige für WC-Ruf. Wandmontage.

Zimmerleuchte Universal, 4-teilig, Best.-Nr. 77 0180 00
wie 77 0181 10, jedoch zusätzlich mit Personalanwesenheit 2.

Achtung! Die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Installation Instructions GB

Room lamp universal, 3 sections, order no. 77 0180 10
for optical signalling of all call types and staff presence 1 as well as additional display for WC call. Wall mounting.

Room lamp universal, 4 sections, order no. 77 0180 00
as 77 0181 00, but additionally with staff presence 2.

Attention! The LED modules include electrostatic sensitive components. Avoid touching.

Anschlüsse / Connections

System EccoLine L200, NewLine L200:

Terminal L200

0V	COM
RL	L1
AWL	L2
	L3
WCL	L4
	LB1
	LB2

System CCS:

ComTerminal

0V	COM
C	L1
S	L2
HS*	L3
WL	L4
	LB1
	LB2

*nur bei 77 0180 00
*only for 77 0180 00

System Concento:

Terminal / Display Modul / RAB /

GND	COM
RL	L1
AW	L2
	L3
WL	L4
	LB1
	LB2

A Montage

1*	Einbaudose	**5**	Dekorrahmen
2	Gehäuse-Rückwand	**6**	Befestigungsschrauben
3*	Anschlussklemme (70 0807 07)	**7**	Lichtkuppel mit Trenneinsatz
4	Leiterplatte mit LED-Modulen	*	ist nicht im Lieferumfang enthalten.

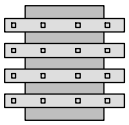
1. Gehäuse-Rückwand **2** mit den Schrauben der Einbaudose an der Einbaudose **1** festschrauben. Einbaurichtung beachten, siehe Markierung im Gehäuse.
2. Angeschlossene Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte **4** stecken.
3. Leiterplatte **4** in die Gehäuse-Rückwand **2** einsetzen (erst oben, dann unten). Dabei die beiden Löcher unten in der Leiterplatte **4** auf die Arretierungsstifte der Gehäuse-Rückwand **2** stecken.
4. LED-Module gemäß der folgenden Übersicht auf die Leiterplatte stecken.
5. Dekorrahmen **5** mit den Befestigungsschrauben **6** auf die Gehäuse-Rückwand **2** schrauben.
6. Lichtkuppel mit Trenneinsatz **7** auf den Dekorrahmen **5** drücken bis sie einrastet.

A Mounting

1*	Back box	**5**	Decorative frame
2	Pattress	**6**	Fixing screws
3*	Connector (70 0807 07)	**7**	Light dome with insert module
4	Printed circuit board (PCB) with LED modules	*	not included with product delivery.

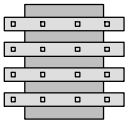
1. Fit the pattress **2** with the back box screws to the back box **1**. For the correct mounting direction refer to the markings in the pattress.
2. Plug the pre-connected connector **3** into the socket on the PCB **4**.
3. Put the PCB **4** into the pattress **2** (first the top, then the bottom). The two holes on the base of the PCB must fit onto the fixing pins of the pattress **2**.
4. Plug the LED modules onto the PCB according to the following overview.
5. Fit the decorative frame **5** with the fixing screws **6** onto the pattress **2**.
6. Press the light dome with the insert module **7** onto the decorative frame **5** until it locks in place.

Farben der LED-Module



Anschlusspunkt	77 0180 10	77 0180 00
L1	rot: Rufe	rot: Rufe
L2	grün: Personal 1	grün: Personal 1
L3	kein LED-Modul	gelb: Personal 2
L4	weiß: WC-Ruf	weiß: WC-Ruf

LED module colours



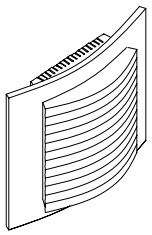
Connector	77 0180 10	77 0180 00
L1	red: calls	red: calls
L2	green: staff 1	green: staff 1
L3	no LED module	yellow: staff 2
L4	white: WC call	white: WC call

B Demontage

Lichtkuppel von oben und unten leicht zusammendrücken und dann abziehen.

B Dismantling

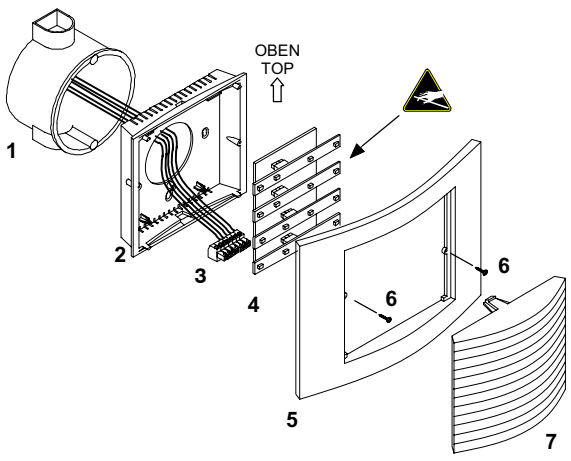
Compress and pull off the light dome.



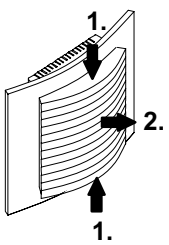
77 0180 10
Zimmerleuchte Universal , 3-teilig
Room lamp Universal, 3 sections

77 0180 00
Zimmerleuchte Universal, 4-teilig
Room lamp Universal, 4 sections

A



B



CE

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Installationsanleitung D

Zimmerleuchte Universal, 3-teilig, mit Türschild, Best.-Nr. 77 0181 10
zur optischen Anzeige von allen Rufarten, Personalanwesenheit 1 und zusätzlich WC-Ruf. Türschild als Beschriftungsfeld für die Raumbezeichnung. Wandmontage.

Zimmerleuchte Universal, 4-teilig, mit Türschild, Best.-Nr. 77 0181 00
wie 77 0181 10, jedoch zusätzlich mit Personalanwesenheit 2.

Achtung! Die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Installation Instructions GB

Room lamp universal, 3 sections, with doorplate, order no. 77 0181 10
for optical signalling of all call types, staff presence 1 and additional display for WC call. Doorplate as label field for room designation. Wall mounting.

Room lamp universal, 4 sections, with doorplate, order no. 77 0181 00
as 77 0181 00, but additionally with staff presence 2.

Attention! The LED modules include electrostatic sensitive components. Avoid touching.

Anschlüsse / Connections

System EccoLine L200, NewLine L200:

Terminal L200

0V	COM
RL	L1
AWL	L2
	L3
WCL	L4
	LB1
	LB2

System CCS:

ComTerminal

0V	COM
C	L1
S	L2
HS*	L3
WL	L4
	LB1
	LB2

*nur bei 77 0181 00
*only for 77 0181 00

System Concento:

Terminal / Display Modul / RAB /

GND	COM
RL	L1
AW	L2
	L3
WL	L4
	LB1
	LB2

A Montage

1*	Einbaudose	**6**	Befestigungsschrauben
2	Gehäuse-Rückwand	**7**	Lichtkuppel mit Trenneinsatz
3*	Anschlussklemme (70 0807 07)	**8***	Namensschild (Höhe x Breite: 70 x 92 mm)
4	Leiterplatte mit LED-Modulen	**9**	Schutzabdeckung
5	Dekorrahmen	* ist nicht im Lieferumfang enthalten.	

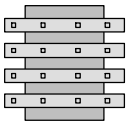
1. Gehäuse-Rückwand **2** mit den Schrauben der Einbaudose an der Einbaudose **1** festschrauben. Einbaurichtung beachten, siehe Markierung im Gehäuse.
2. Angeschlossene Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte **4** stecken.
3. Leiterplatte **4** in die Gehäuse-Rückwand **2** einsetzen (erst oben, dann unten). Dabei die beiden Löcher unten in der Leiterplatte **4** auf die Arretierungsstifte der Gehäuse-Rückwand **2** stecken.
4. LED-Module gemäß der folgenden Übersicht auf die Leiterplatte stecken.
5. Dekorrahmen **5** mit den Befestigungsschrauben **6** auf die Gehäuse-Rückwand **2** schrauben.
6. Lichtkuppel mit Trenneinsatz **7** auf den Dekorrahmen **5** drücken bis sie einrastet.
7. Namenschild **8** und Schutzabdeckung **9** einlegen.

A Mounting

1*	Back box	**6**	Fixing screws
2	Pattress	**7**	Light dome with insert module
3*	Connector (70 0807 07)	**8***	Label strip (hxw: 70 x 92 mm)
4	Printed circuit board (PCB) with LED modules	**9**	Protection cover
5	Decorative frame	* not included with product delivery.	

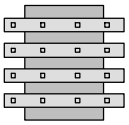
1. Fit the pattress **2** with the back box screws to the back box **1**. For the correct mounting direction refer to the markings in the pattress.
2. Plug the pre-connected connector **3** into the socket on the PCB **4**.
3. Put the PCB **4** into the pattress **2** (first the top, then the bottom). The two holes on the base of the PCB must fit onto the fixing pins of the pattress **2**.
4. Plug the LED modules onto the PCB according to the following overview.
5. Fit the decorative frame **5** with the fixing screws **6** onto the pattress **2**.
6. Press the light dome with the insert module **7** onto the decorative frame **5** until it locks in place.
7. Insert the label strip **8** and the protection cover **9**.

Farben der LED-Module



Anschlusspunkt	77 0181 10	77 0181 00
L1	rot: Rufe	rot: Rufe
L2	grün: Personal 1	grün: Personal 1
L3	kein LED-Modul	gelb: Personal 2
L4	weiß: WC-Ruf	weiß: WC-Ruf

LED module colours



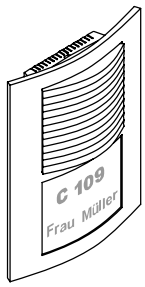
Connector	77 0181 10	77 0181 00
L1	red: calls	red: calls
L2	green: staff 1	green: staff 1
L3	no LED module	yellow: staff 2
L4	white: WC call	white: WC call

B Demontage

Lichtkuppel von oben und unten leicht zusammendrücken und dann abziehen.

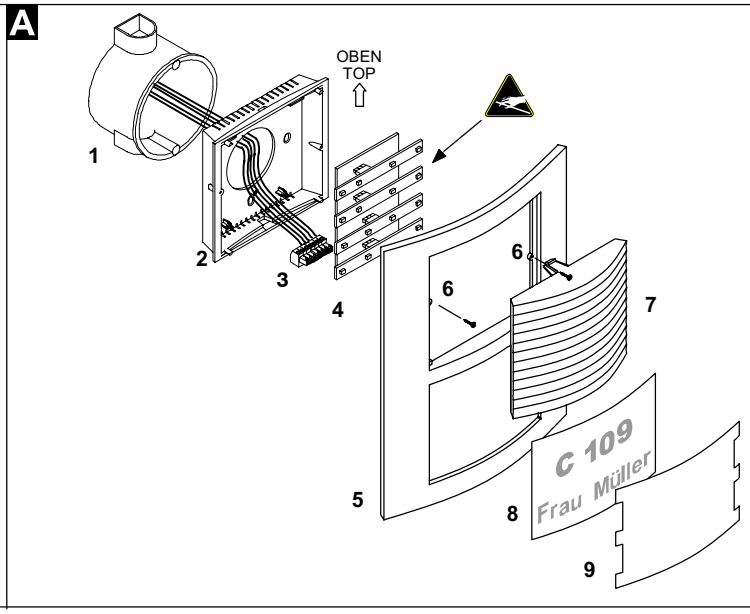
B Dismantling

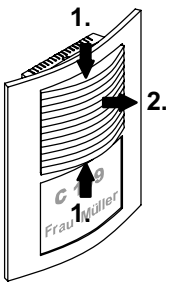
Compress and pull off the light dome.



77 0181 10
Zimmerleuchte Universal , 3-teilig, mit Türschild
Room lamp Universal, 3 sections, with doorplate

77 0181 00
Zimmerleuchte Universal, 4-teilig, mit Türschild
Room lamp Universal, 4 sections, with doorplate





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CE

Switch programme

70 0106 00	Pneumatic call switch
70 0106 01	Pneumatic call switch/WC
70 0111 00	Call switch wp
70 0111 01	Call switch/WC wp
70 0114 00	Code blue / Cardiac alarm switch wp
70 0112 00	Staff presence switch wp
70 0113 00	Cancel switch/WC wp
70 0115 00	Pull cord call switch wp
70 0115 01	Pull cord call switch/WC wp
70 0117 00	Call switch/WC with cancel switch wp
70 0118 00	Call switch with privacy switch wp
70 0183 00	Cancel switch/WC with call tone wp

Installationsanleitung D

Pneumatischer Ruftaster, Best.-Nr. 70 0106 00
Taster zur Rufauslösung durch pneumatische Betätigung. Das integrierte Beruhigungslicht leuchtet auf, sobald ein Ruf ausgelöst wird. Vorzugsweise hergestellt für den Wandeinbau.

Pneumatischer Ruftaster/WC, Best.-Nr. 70 0106 01
Wie Bestell-Nr. 70 0106 00, jedoch für WC-Ruf und WC-Notruf.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

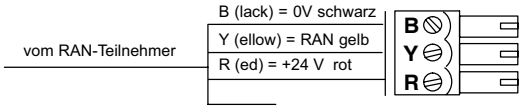
A Montage

1*	Einbaudose	**5**	Leiterplatte (vormontiert)
2	Klemmkralle	**6**	Tastergehäuse
3	Montagerahmen	**7**	Luftschlauch
4*	Anschlussklemme (70 0807 00)	**8**	Gummiball

* ist nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **4** durch den Montagerahmen **3** ziehen.
2. - Einbaudose Mauerwerk: Den Montagerahmen **3** mit der Klemmkralle **2** an der Einbaudose **1** befestigen (Mittenversatz!).
   - Einbaudose Hohlwand: Montagerahmen **3** an den Schraubpunkten der Einbaudose **1** verschrauben (Mittenversatz!)
3. Anschlussklemme **4** in die eingebaute Buchse der Leiterplatte **5** stecken.
4. Tastergehäuse **6** über den Montagerahmen **3** drücken und einrasten lassen.
5. Falls erforderlich: Den Luftschlauch **7** auf die gewünschte Länge kürzen und den Gummiball **8** wieder aufstecken.

Anschluss Zimmerbus (RAN) ohne Sprechen



B Kanalcodierung

Die Ruftaster können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden.

Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt.
Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem entsprechenden Installationsplan.

Beispiel Kanal 6:
P2 und P3 trennen

= werkseitig verbunden

= getrennt

= Lötpunkt

Zum Wiederverbinden getrennter Leitungen

C Demontage

1. Schraubendreher an der Rastnase ansetzen und Tastergehäuse abhebeln.
2. Schraube am Montagerahmen **3** lösen.
3. Anschlussklemme **4** abziehen.

Installation Instructions GB

Pneumatic call switch, order no. 70 0106 00

One call button with pneumatic function for call activation, complete with integrate reassurance lamp. Suitable for wall mounting.

Pneumatic call switch/WC, order no. 70 0106 01

As 70 0106 00, but for WC rooms.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

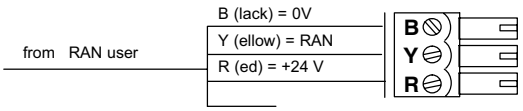
A Mounting

1*	Back box	**5**	Printed circuit board PCB (pre-mounted)
2	Fixing clamp	**6**	Switch housing
3	Mounting frame	**7**	Air tube
4*	Connector (70 0807 00)	**8**	Rubber ball

* not included with product delivery.

1. Pull the cable-connected connector **4** through the mounting frame **3**.
2. - Back box for solid walls: Use the fixing clamp **2** to fix the mounting frame **3** to the back box **1** (centre offset!).
   - Back box for partition walls: Screw the mounting frame **3** to the screw points of the back box **1** (centre offset!).
3. Plug the connector **4** into the socket on the PCB **5**.
4. Push and lock in the switch housing **6** onto the mounting frame **3**.
5. If necessary, shorten the air tube to length and refit the rubber ball.

Connection of room bus (RAN) without speech



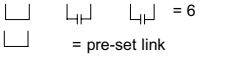
B Channel coding

If functional units are requested, the switches have to be assigned to different channels.

The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3



= pre-set link

= broken link

= Solder point
to reconnect a broken link

C Dismantling

1. Using a screw driver, prize the switch cover from above away from the mounting frame.
2. Unscrew the mounting frame **3**.
3. Remove the connector **4**.

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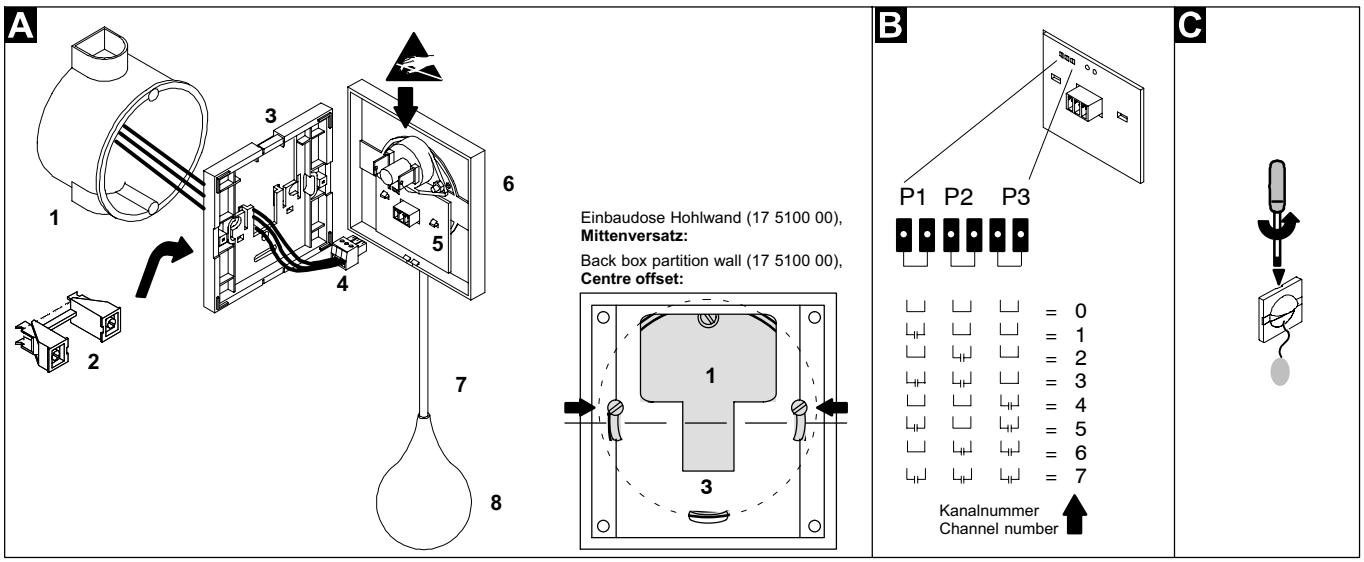
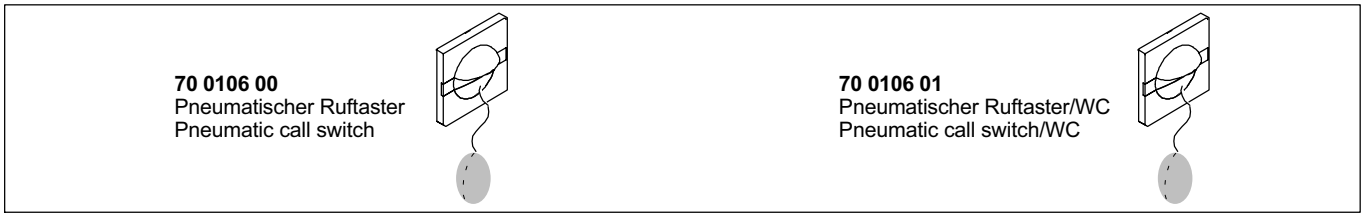




CE

Installationsanleitung D

Ruftaster wg, Best.-Nr. 70 0111 00
Zwei rote Ruftasten mit gleicher Funktion zum Auslösen von Normalrufen oder Notrufen.

Ruftaster/WC wg, Best.-Nr. 70 0111 01
Zwei rote Ruftasten mit gleicher Funktion zum Auslösen von WC-Rufen oder WC-Notrufen.

Alarmtaster wg, Best.-Nr. 70 0114 00
Zwei blaue Alarmtasten zum Auslösen von Alarmen durch das Personal. Vor der Alarmauslösung muss die Schutzklappe nach oben geklappt werden.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

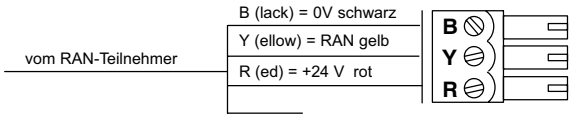
A Montage

1*	Einbaudose	**4**	Tastergehäuse mit Leiterplatte (vormontiert)
2	Montagerahmen	**5**	Schutzklappe (nur Alarmtaster)
3*	Anschlussklemme (70 0807 00)	**6**	Klemmkralle (bei fehlender Schraubmöglichkeit)

***** ist nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **3** durch den Montagerahmen **2** ziehen.
2. Montagerahmen **2** an den Schraubpunkten der Einbaudose **1** verschrauben. Bei fehlender Schraubmöglichkeit dient die Klemmkralle **6** zur Befestigung des Montagerahmens. Klemmkralle nicht für Hohlwanddosen geeignet.
3. Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte im Tastergehäuse **4** stecken.
4. Tastergehäuse **4** über den Montagerahmen **2** drücken und einrasten lassen.
5. Schutzklappe **5** (nur bei Best.-Nr. 70 0114 00) auf das Tastergehäuse setzen und an den oberen beiden Einkerbungen einrasten lassen.

Anschluss Zimmernetzwerk (RAN) ohne Sprechen



B Kanalcodierung

Nur wenn die Bildung von Funktionseinheiten gewünscht ist, müssen die Taster verschiedenen Kanälen zugeordnet werden. Hierzu muss die Leiterplatte im Tastergehäuse **4** freigelegt werden.

- Zum Freilegen der Leiterplatte die Rasthaken der Kunststoffkappe einzeln vorsichtig lösen.
- Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

— —⊣⊢— —⊣⊢— = 6

— = werkseitig verbunden

—⊣⊢— = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

1. Schraubendreher an einer der beiden Rastnasen ansetzen und Tastergehäuse abheben.
2. Schrauben am Montagerahmen **2** lösen.
3. Anschlussklemme **3** abziehen.

Installation Instructions GB

Call switch wp, order no. 70 0111 00
Two red call buttons with identical function for raising normal calls or emergency calls.

Call switch/WC wp, order no. 70 0111 01
Two red call buttons with identical function for raising WC calls or WC emergency calls.

Code blue/Cardiac alarm switch wp, order no. 70 0114 00
Two blue code blue/cardiac alarm buttons with identical function for raising codes blue/cardiac alarms by the staff. Protection cover must be lift before pressing a button.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

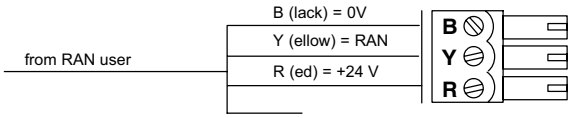
A Mounting

1*	Back box	**4**	Switch housing with pre-installed printed circuit board
2	Mounting frame	**5**	Protection cover (Code blue/Cardiac alarm switch only)
3*	Connector (70 0807 00)	**6**	Fixing clamp (if screw fixing is not possible)

***** not included with product delivery.

1. Pull the cable-connected connector **3** through the mounting frame **2**.
2. Screw the mounting frame **2** to the back box **1**. If screw fixing is not possible, use the fixing clamp **6** to fix the mounting frame to the box. The fixing clamp cannot be used with back boxes for partition walls.
3. Plug the connector **3** into the socket on the printed circuit board within the switch housing **4** .
4. Push and lock in the switch housing **4** onto the mounting frame **2**.
5. Fit the protection cover **5** (only relevant to order no. 70 0114 00) over the switch housing and lock in the upper notches .

Connection of room area network (RAN) without speech



B Channel coding

Only if functional units are requested, the switches have to be assigned to different channels. For this the printed circuit board (PCB) within the switch housing **4** must be exposed.

- To expose the PCB, carefully unlock each locking nose separately from the plastic cover.
- The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

— —⊣⊢— —⊣⊢— = 6

— = pre-set link

—⊣⊢— = broken link

= Solder point
to reconnect a broken link

C Dismantling

1. Using a screw driver, prize the switch cover from above or below away from the mounting frame.
2. Unscrew the mounting frame **2** .
3. Remove the connector **3**.

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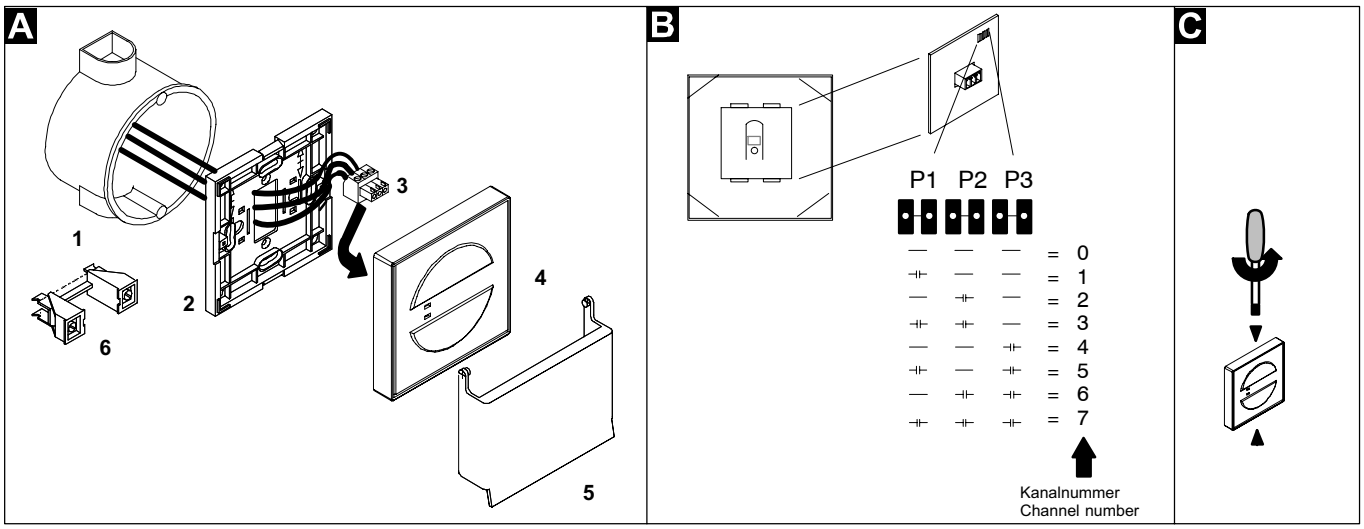


CE

70 0111 00
Ruftaster wg
Call switch wp
rot / red

70 0111 01
Ruftaster/WC wg
Call switch/WC wp
rot / red

70 0114 00
Alarmtaster wg
Code blue/Cardiac alarm switch wp
blau / blue

Installationsanleitung D

Anwesenheitstaster wg, Best.-Nr. 70 0112 00
Zwei verschiedene Anwesenheitstasten zum Ein- und Ausschalten der Personalanwesenheit von zwei verschiedenen Personalgruppen.
Grün: Anwesenheit 1, Gelb: Anwesenheit 2

Abstelltaster/WC wg, Best.-Nr. 70 0113 00
Zwei graue Abstelltasten mit gleicher Funktion zur lokalen Abstellung von WC-Rufen oder WC-Notrufen. Vorzugsweise zur Abstellung von Rufen aus WC-Räumen, die Patientenzimmern zugeordnet sind.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

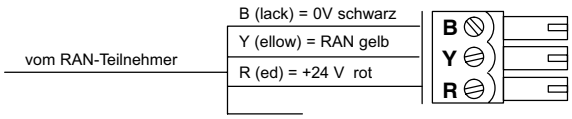
A Montage

1* Einbaudose
2 Montagerahmen
3* Anschlussklemme (70 0807 00)
4 Tastergehäuse mit Leiterplatte (vormontiert)
5 Klemmkralle (bei fehlender Schraubmöglichkeit)

* ist nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **3** durch den Montagerahmen **2** ziehen.
2. Montagerahmen **2** an den Schraubpunkten der Einbaudose **1** verschrauben. Bei fehlender Schraubmöglichkeit dient die Klemmkralle **5** zur Befestigung des Montagerahmens. Klemmkralle nicht für Hohlwanddosen geeignet.
3. Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte im Tastergehäuse **4** stecken.
4. Tastergehäuse **4** über den Montagerahmen **2** drücken und einrasten lassen.

Anschluss Zimmernetzwerk (RAN) ohne Sprechen



B Kanalcodierung

Nur wenn die Bildung von Funktionseinheiten gewünscht ist, müssen die Taster verschiedenen Kanälen zugeordnet werden. Hierzu muss die Leiterplatte im Tastergehäuse **4** freigelegt werden.

- Zum Freilegen der Leiterplatte die Rasthaken der Kunststoffkappe einzeln vorsichtig lösen.
- Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

— —⊣⊢— —⊣⊢— = 6

— = werkseitig verbunden

—⊣⊢— = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

1. Schraubendreher an einer der beiden Rastnasen ansetzen und Tastergehäuse abheben.
2. Schrauben am Montagerahmen **2** lösen.
3. Anschlussklemme **3** abziehen.

Installation Instructions GB

Staff presence switch wp, order no. 70 0112 00
Two different presence buttons for activating and deactivating staff presence of two different staff groups.
Green: Staff presence 1, Yellow: Staff presence two

Cancel switch/WC wp, order no. 70 0113 00
Two grey cancel buttons with identical function for locally cancelling WC calls or WC emergency calls. Preferably for calls from WC rooms en-suite to a patient room.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

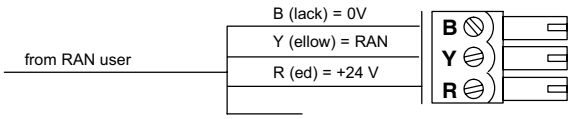
A Mounting

1* Back box
2 Mounting frame
3* Connector (70 0807 00)
4 Switch housing with pre-installed printed circuit board
5 Fixing clamp (if screw fixing is not possible)

* not included with product delivery.

1. Pull the cable-connected connector **3** through the mounting frame **2**.
2. Screw the mounting frame **2** to the back box **1**.
   If screw fixing is not possible, use the fixing clamp **5** to fix the mounting frame to the box. The fixing clamp cannot be used with back boxes for partition walls.
3. Plug the connector **3** into the socket on the printed circuit board within the switch housing **4**.
4. Push and lock in the switch housing **4** onto the mounting frame **2**.

Connection of room area network (RAN) without speech



B Channel coding

Only if functional units are requested, the switches have to be assigned to different channels. For this the printed circuit board (PCB) within the switch housing **4** must be exposed.

- To expose the PCB, carefully unlock each locking nose separately from the plastic cover.
- The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

— —⊣⊢— —⊣⊢— = 6

— = pre-set link

—⊣⊢— = broken link

= Solder point
to reconnect a broken link

C Dismantling

1. Using a screw driver, prize the switch cover from above or below away from the mounting frame.
2. Unscrew the mounting frame **2** .
3. Remove the connector **3**.

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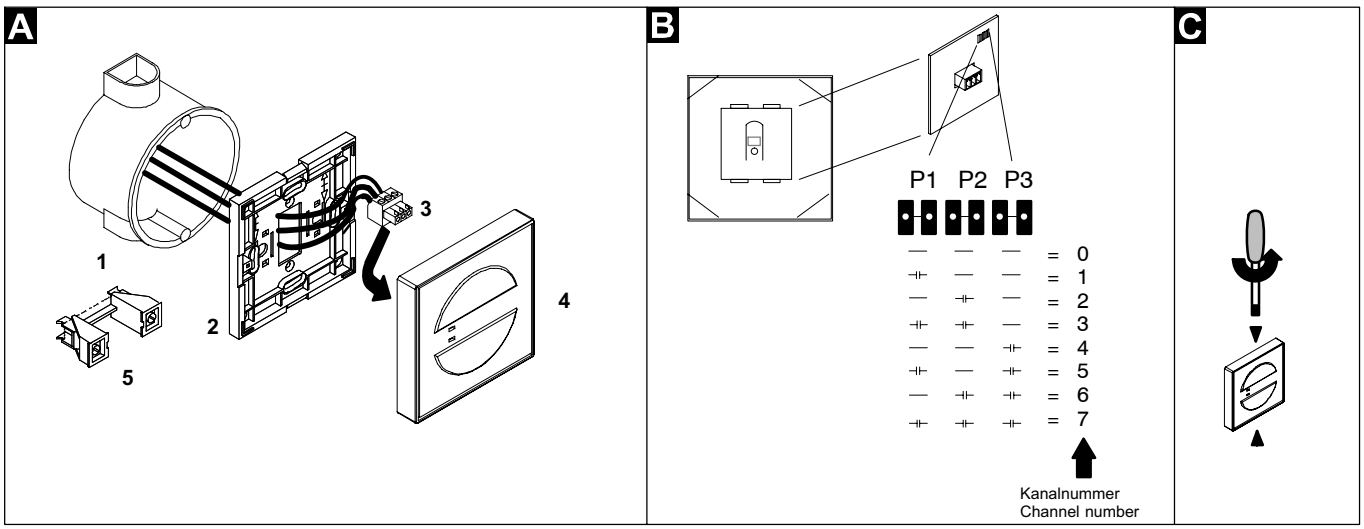
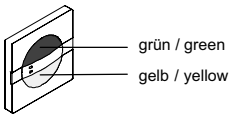
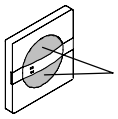


CE

70 0112 00
Anwesenheitstaster wg
Staff presence switch wp



70 0113 00
Abstelltaster/WC wg
Cancel switch/WC wp



Installationsanleitung D

Rufzugtaster wg, Best.-Nr. 70 0115 00
Taster zur Rufauslösung durch Tast- oder Zugbetätigung.

Rufzugtaster/WC wg, Best.-Nr. 70 0115 01
wie 70 0115 00, jedoch für WC-Rufe bzw. WC-Notrufe.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Wandmontage / Deckenmontage

Wandmontage: siehe Abbildung **A1**.

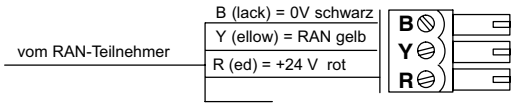
Deckenmontage: ACHTUNG: Die Rufschnur muss von der Zugtaster-Haube **6** in Richtung des Tastergehäuses **5** gezogen werden. Eine andere Zugrichtung verhindert die Rufauslösung (Abbildung **A3**). Achten Sie deshalb darauf, dass die Zugtaster-Haube von der Zugrichtung (z.B. Badewanne) abgewandt ist (Abbildung **A2**).
Wenn eine Raumwand in der Nähe ist, richten Sie die Zugtaster-Haube **6** in Richtung der Wand aus. Das Tastergehäuse **5** ist dann von der Wand abgewandt. Eine problemlose Rufauslösung ist gewährleistet.

B Montage

1*	Einbaudose	**5**	Tastergehäuse mit Leiterplatte (vormontiert)
2	Zugtaster-Basis	**6**	Zugtaster-Haube
3	Montagerahmen	**7**	Rufschnur
4*	Anschlussklemme (70 0807 00)	**8**	Rufgriff * nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **4** durch die Zugtaster-Basis **2** und den Montagerahmen **3** ziehen.
   Einbaurichtung von Zugtaster-Basis und Montagerahmen beachten, siehe Abbildung **B**!
2. Montagerahmen **3** auf die Zugtaster-Basis **2** drücken.
3. Zugtaster-Basis **2** inkl. Montagerahmen **3** mit vier Schrauben und Dübeln an die Wand schrauben. Eine Befestigung in der Einbaudose ist nicht ausreichend!
4. Anschlussklemme **4** in die eingebaute Buchse am Taster **5** stecken.
5. Tastergehäuse **5** auf den Montagerahmen **3** drücken, bis es einrastet.
   Einbaurichtung beachten! Das heißt, Symbole korrekt orientieren.
6. Die Zugtaster-Haube **6** von oben auf den Taster schieben, bis sie einrastet.
7. Die Rufschnur **7** auf die gewünschte Länge kürzen und im Rufgriff **8** neu verknoten.

Anschluss Zimmernetzwerk (RAN) ohne Sprechen



C Kanalcodierung

Nur wenn die Bildung von Funktionseinheiten gewünscht ist, müssen die Taster verschiedenen Kanälen zugeordnet werden. Hierzu muss die Leiterplatte im Tastergehäuse **5** freigelegt werden. Zum Freilegen der Leiterplatte die Rasthaken der Kunststoffkappe einzeln vorsichtig lösen. Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

— ⊣⊢ ⊣⊢ = 6
— = werkseitig verbunden
⊣⊢ = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

D Demontage

1. Zugtaster-Haube **6** nach oben abschieben. Zum Lösen des Scharniers evtl. von unten seitlich gegen die Zugtaster-Haube schlagen.
2. Tastergehäuse **5** mit Schraubendreher vom Montagerahmen **3** abhebeln.
3. Anschlussklemme **4** abziehen.
4. Befestigungsschrauben von Montagerahmen **3** und Zugtaster-Basis **2** lösen.
5. Montagerahmen **3** von Zugtaster-Basis **2** abheben.

Installation Instructions GB

Pull cord call switch wp, order no. 70 0115 00
One call button as well as a pull cord for raising a call.

Pull cord call switch/WC wp, order no. 70 0115 01
as 70 0115 00, but for WC calls or WC emergency calls.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Wall installation / Ceiling installation

Wall installation: Refer to figure **A1**.

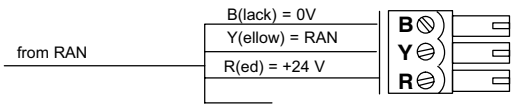
Ceiling installation: ATTENTION: The pull cord has to be pulled away from the pull cord switch bonnet **6** into the direction of the switch housing **5**. Another pull direction prevents a call activation (figure **A3**). Therefore pay attention, that the pull cord bonnet is turned away from the pull direction (eg. bathtub) (figure **A2**).
If a room wall is near, turn the pull cord switch bonnet **6** into the direction of the wall. Then the switch housing **5** is turned away from the wall. A correct call activation is guaranteed.

B Mounting

1*	Back box	**5**	Switch housing with pre-installed PCB
2	Pull cord switch base	**6**	Pull cord switch bonnet
3	Mounting frame	**7**	Pull cord
4*	Connector (70 0807 00)	**8**	Red cord grip * not included in product delivery.

1. Pull the pre-assembled connector **4** through the pull cord switch base **2** and the mounting frame **3**. Take into account the correct orientation of the pull cord switch base and of the mounting frame as shown in figure **B**!
2. Press the mounting frame **3** onto the pull cord switch base **2**.
3. Screw the pull cord switch base **2** incl. the mounting frame **3** on the wall using four screws and dowels. A fixing onto the back box is not stable enough!
4. Plug the connector **4** into the socket on the switch housing **5**.
5. Push and lock in the switch housing **5** onto the mounting frame **3**.
   Note the orientation! I.e. place the symbols in the correct direction.
6. Push and lock the pull cord switch bonnet **6** from above onto the switch.
7. If needed, shorten the cord **7** to length and fix the grip **8** by tying a knot accordingly.

Connection of room area network (RAN) without speech



C Channel coding

Only if functional units are requested, the call switches have to be assigned to different channels. For this the printed circuit board (PCB) within the switch housing **5** must be exposed. To expose the PCB, carefully unlock each locking nose separately from the plastic cover. The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set, please refer to the appropriate installation drawing.

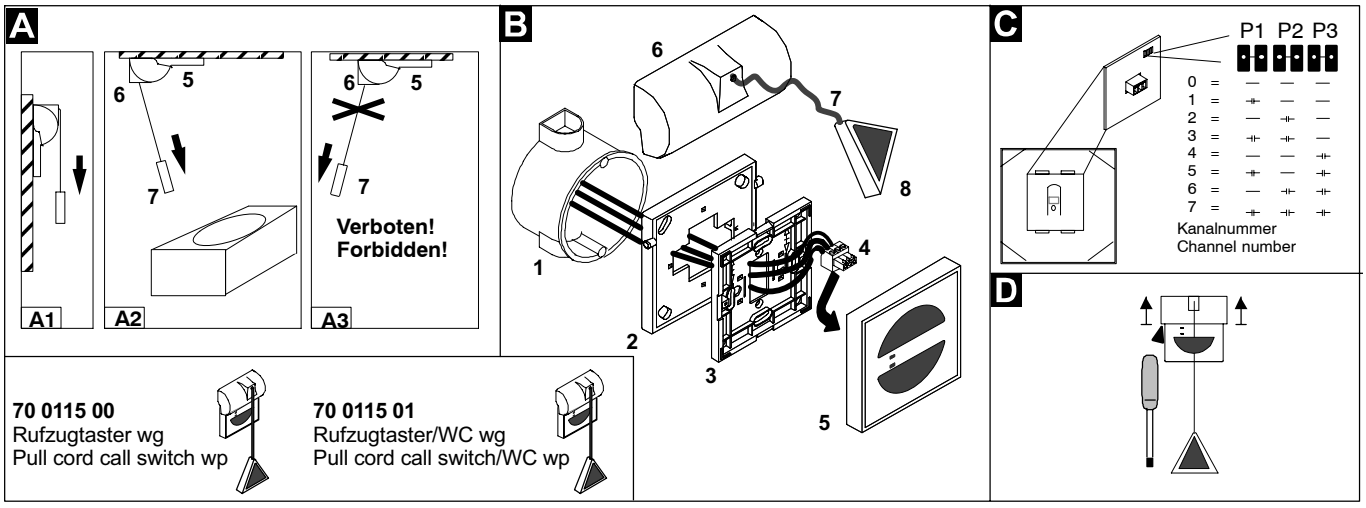
Example channel number 6:
Break links P2 and P3

— ⊣⊢ ⊣⊢ = 6
— = pre-set link
⊣⊢ = broken link

= Solder point
to reconnect a broken link

D Dismantling

1. Remove up the pull cord switch bonnet **6**. To release the hinges you may beat lateral from below against the pull cord switch bonnet.
2. Using a screw driver, lift the switch housing **5** from the mounting frame **3**.
3. Remove the connector **4**.
4. Unscrew the fixing screws from the mounting frame **3** and the pull cord switch base **2**.
5. Lift the mounting frame **3** from the pull cord switch base **2**.



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CE

Installationsanleitung D

Ruftaster/WC mit Abstelltaste wg, Best.-Nr. 70 0117 00
Rote Ruftaste und graue Abstelltaste zum Auslösen und Abstellen von WC-Rufen und WC-Notrufen. Ruftaste mit Beruhigungslicht und Findelicht.

Ruftaster mit Privattaste wg, Best.-Nr. 70 0118 00
Rote Ruftaste mit Beruhigungslicht und Findelicht zur Rufauslösung. Graue Privattaste zur lokalen Schaltung der Mithörsperre.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

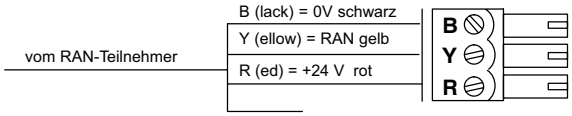
A Montage

1* Einbaudose
2 Montagerahmen
3* Anschlussklemme (70 0807 00)
4 Tastergehäuse mit Leiterplatte (vormontiert)
5 Klemmkralle (bei fehlender Schraubmöglichkeit)

***** ist nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **3** durch den Montagerahmen **2** ziehen.
2. Montagerahmen **2** an den Schraubpunkten der Einbaudose **1** verschrauben. Bei fehlender Schraubmöglichkeit dient die Klemmkralle **5** zur Befestigung des Montagerahmens. Klemmkralle nicht für Hohlwanddosen geeignet.
3. Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte im Tastergehäuse **4** stecken.
4. Tastergehäuse **4** über den Montagerahmen **2** drücken und einrasten lassen.

Anschluss Zimmernetzwerk (RAN) ohne Sprechen



B Kanalcodierung

Nur wenn die Bildung von Funktionseinheiten gewünscht ist, müssen die Taster verschiedenen Kanälen zugeordnet werden. Hierzu muss die Leiterplatte im Tastergehäuse **4** freigelegt werden.

- Zum Freilegen der Leiterplatte die Rasthaken der Kunststoffkappe einzeln vorsichtig lösen.
- Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

— ⊣⊢ ⊣⊢ = 6

— = werkseitig verbunden

⊣⊢ = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

1. Schraubendreher an einer der beiden Rastnasen ansetzen und Tastergehäuse abheben.
2. Schrauben am Montagerahmen **2** lösen.
3. Anschlussklemme **3** abziehen.

Installation Instructions GB

Call switch/WC with cancel switch wp, order no. 70 0117 00
Red call button and grey cancel button for raising and cancelling WC calls and WC emergency calls. Call button with reassurance light and location light.

Call switch with privacy switch, order no. 70 0118 00
Red call button with reassurance light and location light for raising calls. Grey privacy button for local switching of privacy.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

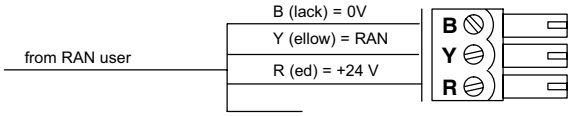
A Mounting

1* Back box
2 Mounting frame
3* Connector (70 0807 00)
4 Switch housing with pre-installed printed circuit board
5 Fixing clamp (if screw fixing is not possible)

***** not included with product delivery.

1. Pull the cable-connected connector **3** through the mounting frame **2**.
2. Screw the mounting frame **2** to the back box **1**. If screw fixing is not possible, use the fixing clamp **5** to fix the mounting frame to the box. The fixing clamp cannot be used with back boxes for partition walls.
3. Plug the connector **3** into the socket on the printed circuit board within the switch housing **4**.
4. Push and lock in the switch housing **4** onto the mounting frame **2**.

Connection of room area network (RAN) without speech



B Channel coding

Only if functional units are requested, the switches have to be assigned to different channels. For this the printed circuit board (PCB) within the switch housing **4** must be exposed.

- To expose the PCB, carefully unlock each locking nose separately from the plastic cover.
- The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

— ⊣⊢ ⊣⊢ = 6

— = pre-set link

⊣⊢ = broken link

= Solder point
to reconnect a broken link

C Dismantling

1. Using a screw driver, prize the switch cover from above or below away from the mounting frame.
2. Unscrew the mounting frame **2** .
3. Remove the connector **3**.

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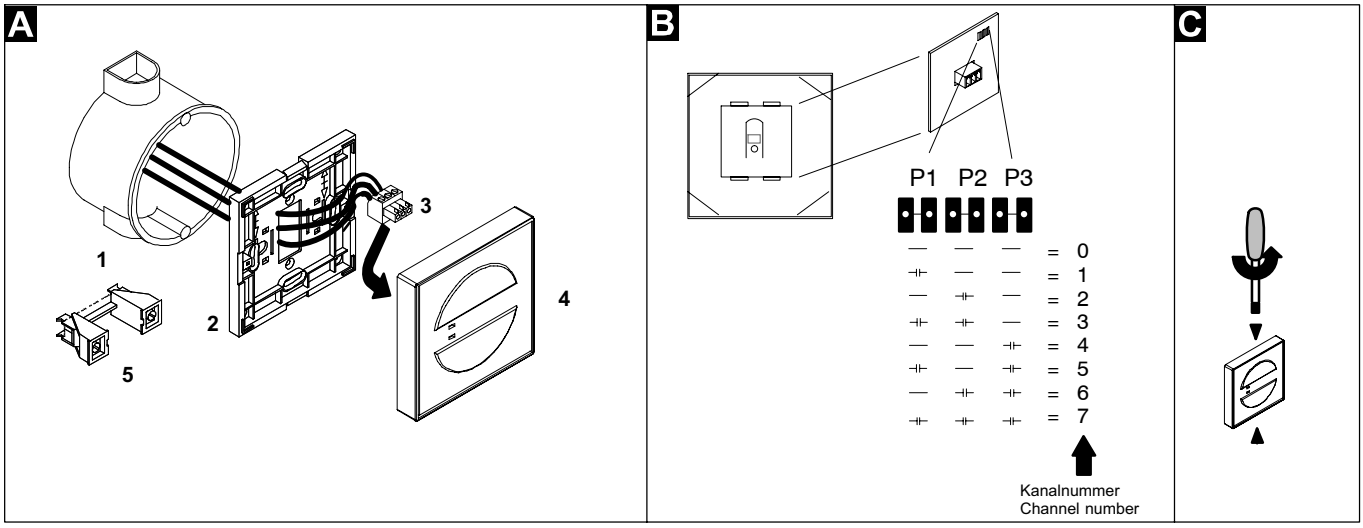
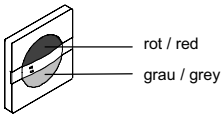
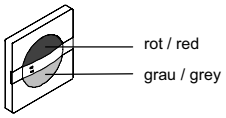


CE

70 0117 00
Ruftaster/WC mit Abstelltaste wg
Call switch/WC with cancel switch wp



70 0118 00
Ruftaster mit Privattaste wg
Call switch with privacy switch wp



Installationsanleitung D

Anwesenheits-Kombination mit Rufton wg, Best.-Nr. 70 0119 00
Grüne Anwesenheitstaste mit integriertem Erinnerungslicht zum Ein- und Ausschalten der Personalanwesenheit. Rote Ruftaste mit Beruhigungslicht und Findelicht zum Auslösen von Rufen. Signalgeber zur akustischen Signalisierung nachgesendeter Rufe.

Abstelltaster/WC mit Rufton wg, Best.-Nr. 70 0183 00
Zwei graue Abstelltasten mit integriertem Erinnerungslicht zur lokalen Abstellung von WC-Rufen und WC-Notrufen. Signalgeber zur akustischen Signalisierung nachgesendeter Rufe. Vorzugsweise zur separaten Abstellung von Rufen aus WC-Räumen, die Patientenzimmern zugeordnet sind.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

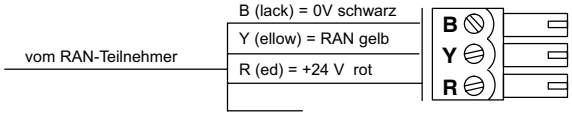
A Montage

1* Einbaudose
2 Montagerahmen
3* Anschlussklemme (70 0807 00)
4 Tastergehäuse mit Leiterplatte (vormontiert)
5 Klemmkralle (bei fehlender Schraubmöglichkeit)

***** ist nicht im Lieferumfang enthalten.

1. Angeschlossene Anschlussklemme **3** durch den Montagerahmen **2** ziehen.
2. Montagerahmen **2** an den Schraubpunkten der Einbaudose **1** verschrauben. Bei fehlender Schraubmöglichkeit dient die Klemmkralle **5** zur Befestigung des Montagerahmens. Klemmkralle nicht für Hohlwanddosen geeignet.
3. Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte im Tastergehäuse **4** stecken.
4. Tastergehäuse **4** über den Montagerahmen **2** drücken und einrasten lassen.

Anschluss Zimmernetzwerk (RAN) ohne Sprechen



B Kanalcodierung

Nur wenn die Bildung von Funktionseinheiten gewünscht ist, müssen die Taster verschiedenen Kanälen zugeordnet werden. Hierzu muss die Leiterplatte im Tastergehäuse **4** freigelegt werden.

- Zum Freilegen der Leiterplatte die Rasthaken der Kunststoffkappe einzeln vorsichtig lösen.
- Die Kanalnummern werden an einer markierten Stelle auf der Leiterplatte (P1, P2, P3) durch Trennen (Messer) bzw. Verbinden (Löten) eingestellt. Werkseitig ist immer die Kanalnummer 0 eingestellt.

Die einzustellende Kanalnummer entnehmen Sie dem Installationsplan.

Beispiel Kanalnummer 6:
P2 und P3 trennen

— ⊣⊢ ⊣⊢ = 6

— = werkseitig verbunden

⊣⊢ = getrennt

= Lötpunkt
Zum Wiederverbinden getrennter Leitungen

C Demontage

1. Schraubendreher an einer der beiden Rastnasen ansetzen und Tastergehäuse abheben.
2. Schrauben am Montagerahmen **2** lösen.
3. Anschlussklemme **3** abziehen.

Installation Instructions GB

Staff presence combination with call tone wp, order no. 70 0119 00
Green presence button with integrated reminder light for activating and deactivating of staff presence. Red call button with reassurance light and location light for raising calls. Tone generator for acoustic signalling of forwarded calls.

Cancel switch/WC with call tone, order no. 70 0183 00
Two grey cancel buttons with integrated reminder light for local cancelling of WC calls and WC emergency calls. Tone generator for acoustic signalling of forwarded calls. Preferably for cancelling of calls in WC rooms en-suite to apatient rooms.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

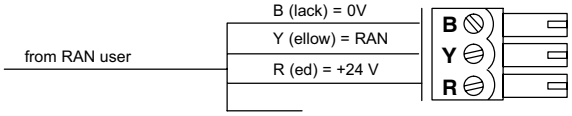
A Mounting

1* Back box
2 Mounting frame
3* Connector (70 0807 00)
4 Switch housing with pre-installed printed circuit board
5 Fixing clamp (if screw fixing is not possible)

***** not included with product delivery.

1. Pull the cable-connected connector **3** through the mounting frame **2**.
2. Screw the mounting frame **2** to the back box **1**. If screw fixing is not possible, use the fixing clamp **5** to fix the mounting frame to the box. The fixing clamp cannot be used with back boxes for partition walls.
3. Plug the connector **3** into the socket on the printed circuit board within the switch housing **4**.
4. Push and lock in the switch housing **4** onto the mounting frame **2**.

Connection of room area network (RAN) without speech



B Channel coding

Only if functional units are requested, the switches have to be assigned to different channels. For this the printed circuit board (PCB) within the switch housing **4** must be exposed.

- To expose the PCB, carefully unlock each locking nose separately from the plastic cover.
- The channel number is configured at the position marked on the PCB (P1, P2, P3) by breaking the links (cutter) or reconnecting (solder). The product is pre-set on channel 0.

For the channel number to be set please refer to the installation plan.

Example channel number 6:
Break links P2 and P3

— ⊣⊢ ⊣⊢ = 6

— = pre-set link

⊣⊢ = broken link

= Solder point
to reconnect a broken link

C Dismantling

1. Using a screw driver, prize the switch cover from above or below away from the mounting frame.
2. Unscrew the mounting frame **2** .
3. Remove the connector **3**.

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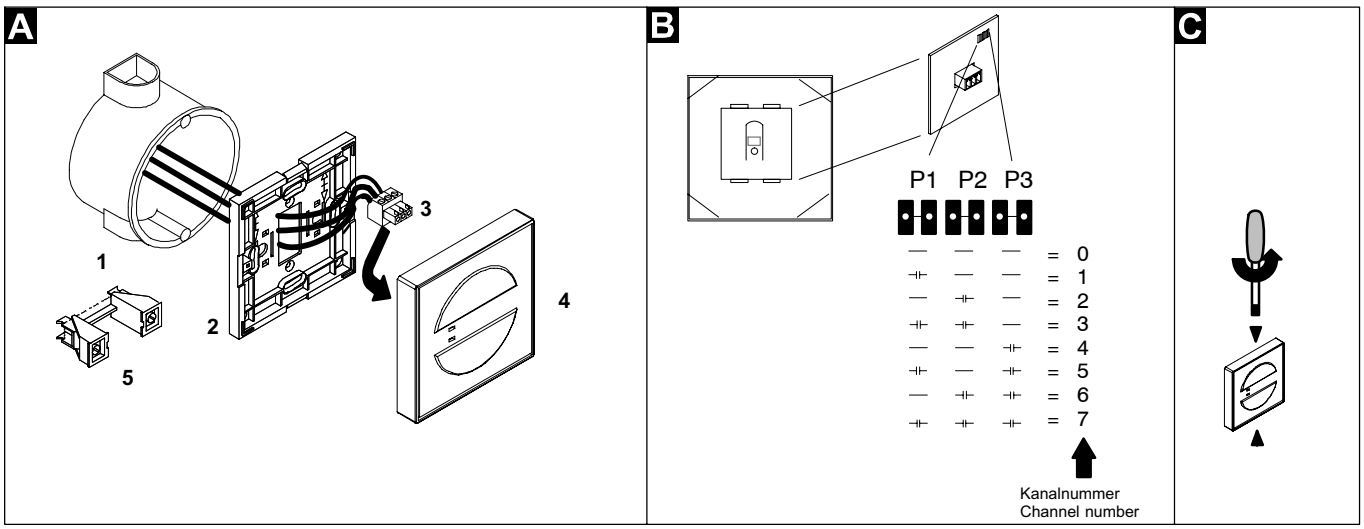
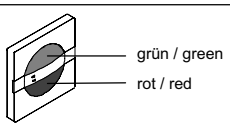
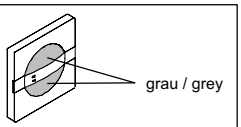


70 0119 00
Anwesenheits-Kombination mit Rufton wg
Staff presence combination with call tone wp



70 0183 00
Abstelltaster/WC mit Rufton wg
Cancel switch/WC with call tone wp



CE

Room terminals

74 0510 00	ComTerminal

Installationsanleitung D

ComTerminal, Best.-Nr. 74 0510 00
Universelles Kommunikationsterminal in Gegensprechtechnik inkl. rote Ruftaste, blaue Alarmtaste, grüne Anwesenheitstaste (AW1), gelbe Anwesenheitstaste (AW2), 4 Funktionstasten mit situationsabhängiger Belegung, Mikrofon und Lautsprecher.

Achtung! Bei Installation im System Flamenco müssen Sie zusätzlich die Installationsanleitung (Best.-Nr. 00 8802 38) zu der Leiterplatte OSYlink-ComTerminal (Best.-Nr. 77 0805 00) befolgen.

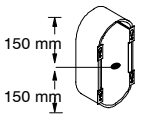
Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

1* Einbaudose mit montierter Steckvorrichtung
2 Terminal-Rückwand
3 Flachkabel
4 Terminal-Frontteil
5 Scharnier
6 Rastnase
* ist nicht im Lieferumfang enthalten

A Demontage

1. Falls eine Schraube unten am ComTerminal eingeschraubt ist, die Schraube lösen.
2. Mit dem Schraubendreher Rastnase **6** vorsichtig nach oben drücken, bis sich das Terminal-Frontteil **4** löst.
3. Das Terminal-Frontteil mit der Hand am Scharnier **5** abhebeln und nach oben abnehmen.

B Montage



Beachten Sie beim Setzen der Einbaudosen den Platzbedarf des Terminals. Vom Mittelpunkt der Dose muss nach oben und unten ein Platzbedarf von mindestens 150 mm vorgesehen werden.

1. Die vier Befestigungsschrauben der Steckvorrichtung ein Stück herausdrehen.
2. Flachkabel **3** durch die Terminal-Rückwand **2** führen und in die zugehörige Buchse auf der Steckvorrichtung **1** stecken.
3. Terminal-Rückwand **2** auf die Befestigungsschrauben der Steckvorrichtung aufsetzen und festschrauben.
4. Terminal-Frontteil **4** oben auf die Terminal-Rückwand **2** aufsetzen, so dass ein Scharnier **5** entsteht. Anschließend das Terminal-Frontteil auf die Terminal-Rückwand herunterdrücken, bis die Rastnase **6** einrastet.
5. Zur Sicherung kann eine Schraube (3 x 13 mm für Kunststoff) unten in die Bohrung eingeschraubt werden.

Abschließend muss das ComTerminal konfiguriert werden (siehe Seite “Konfigurationsanleitung”) .

C Wahlweise: Befestigung mit Dübeln

Für eine stabilere Befestigung kann das ComTerminal mit Dübeln und Schrauben befestigt werden. Hierzu verfügt die Terminal-Rückwand über vier spezielle Bohrungen.

Installation Instructions GB

ComTerminal, order no. 74 0510 00
Universal communication terminal with two-way speech communication, incl. red call button, blue code blue/cardiac alarm button, green presence button (staff 1), yellow presence button (staff 2), 4 function keys as soft keys, microphone and loudspeaker.

Attention! For installation in Flamenco System you must also follow the installation instructions (order no. 00 8802 38) for the printed circuit board OSYlink-ComTerminal (order nor. 77 0805 00).

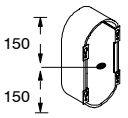
Note! The complete installation of the system is described in the technical manual.

1* Back box with mounted connection socket
2 Pattress
3 Flat cable
4 Front panel
5 Hinge
6 Catch
* not included

A Dismantling

1. If a screw is fitted into the base of the ComTerminal, remove it.
2. Use a screwdriver to push the catch **6** upwards until the front panel **4** looses.
3. Hold the front panel at the bottom and lift until it releases at the hinge **5**.

B Mounting



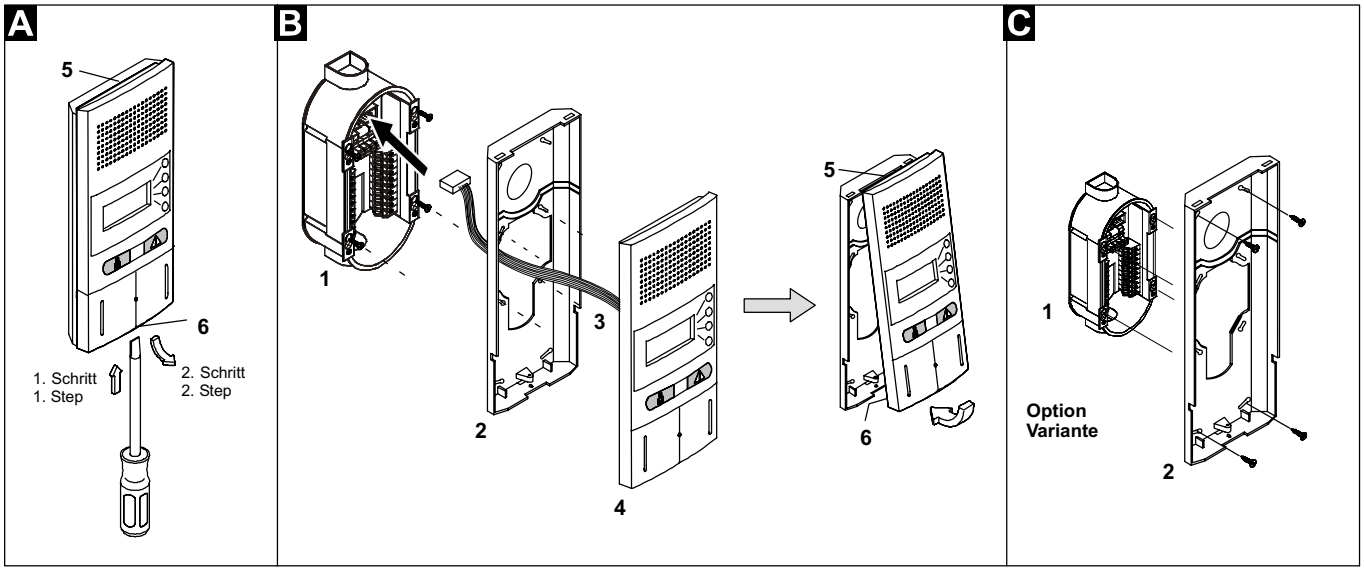
When installing the back box consider the space required for the complete terminal. Measuring from the centre of the box, the available space must be at least 150 mm above and below.

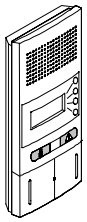
1. Loosen the four fixing screws of the connection socket.
2. Insert the flat cable **3** through the pattress **2** and plug it into the appropriate socket on the connection socket **1**.
3. Place the pattress **2** on the connection socket and tighten the fixing screws.
4. Place front panel **4** onto the top of the pattress **2** creating a hinge **5**. Now press the front panel downwards onto the pattress until the catch **6** engages.
5. For improved security a screw (3 x 13 mm for plastics) can be fitted into the hole in the base of the ComTerminal.

Finally the ComTerminal has to be configured (see page “Configuration Instructions”).

C Option: Fixing with dowels

For more stable fixing the ComTerminal can be fixed with dowels and screws. For this purpose there are special holes in the pattress.





74 0510 00
ComTerminal

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CE

Konfigurationsanleitung D

ComTerminal, Best.-Nr. 74 0510 00
Universelles Kommunikationsterminal in Gegensprechtechnik inkl. rote Ruftaste, blaue Alarmtaste, grüne Anwesenheitstaste (AW1), gelbe Anwesenheitstaste (AW2), 4 Funktionstasten mit situationsabhängiger Belegung, Mikrofon und Lautsprecher.

1. Konfigurationsmenü starten

- Oberste und unterste der 4 Funktionstasten gleichzeitig so lange (5 Sek.) gedrückt halten, bis "Konfiguration" im Display erscheint. Bedeutung der Symbole:
  ~ = Menüpunkt auswählen
  \+ = Größeren Wert einstellen
  – = Kleineren Wert einstellen
  X = Konfigurationsmenü verlassen (und Einstellungen speichern)

2. Einstellungen vornehmen

Sprache einstellen
- So oft "~" drücken, bis "Sprache" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte Sprache erscheint: D = Deutsch, GB = Englisch, E = Spanisch, F = Französisch, NL = Niederländisch, I = Italienisch

Raumtyp einstellen
- So oft "~" drücken, bis "Raumtyp" erscheint.
- So oft "+" oder "–" drücken, bis gewünschter Raumtyp erscheint:
  - Patientenzimmer
  - Patientenzimmer mit Abstelltaste für WC-Ruf im ComTerminal
  - Dienstzimmer (Notrufe werden als Normalrufe signalisiert)
  - Kinderzimmer (Keine Privat-Taste im ComTerminal, Mithörsperre AUS)
  - Anschlussterminal (Tasten und Display im ComTerminal außer Betrieb)

Zimmer-Adresse einstellen (01 - 63)
- So oft "~" drücken, bis "Adresse" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte Adresse erscheint.

RAN Anzahl einstellen (00 - 30)
RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die am ComTerminal über RAN angeschlossen sind (**Kein** Birntaster, **keine** PBK Hand).
Achtung, Ausnahme! Eine 4-teilige Zimmerleuchte (Best.-Nr. 77 0170 10 oder 77 0171 10) gilt als **zwei** Zimmergeräte.
- So oft "~" drücken, bis "RAN Anzahl" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte RAN Anzahl erscheint.

3. Funktionstest durchführen

- So oft "~" drücken, bis "Test CCS/Test RAN" erscheint.

Test CCS
Test, ob das ComTerminal korrekt an der Steckvorrichtung ComTerminal angeschlossen ist.
- Test Starten: "+" im Menü "Test CCS/Test RAN" drücken.
- Testergebnis wird im Display angezeigt:
  [⋆] Sternchen springt regelmäßig hin und her: Test o.k.!
  Wenn eine andere Anzeige erfolgt, ist der Test nicht o.k.: Das ComTerminal ist nicht korrekt an der Steckvorrichtung ComTerminal angeschlossen.
- Test beenden: Erneut "+" drücken.

Test RAN
Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind. Test, ob RAN Anzahl korrekt eingestellt ist.
- Test Starten: "–" im Menü "Test CCS/Test RAN" drücken.
- Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. (Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen)
- Prüfen, ob Anzahl angeschlossener Zimmergeräte mit RAN Anzahl im Display [XX] übereinstimmt. (Falls RAN Anzahl im Display falsch, diese nach dem RAN Test wie oben beschrieben einstellen)
- Test beenden: Erneut "–" drücken.

4. Konfigurationsmenü verlassen

Wenn keine Einstellungen mehr vorgenommen werden sollen und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen. Dabei werden die Einstellungen gespeichert.
- "X" (= unterste Funktionstaste) drücken.

Hinweis: Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen und die Einstellungen gespeichert.

Configuration Instructions GB

ComTerminal, order no. 74 0510 00
Universal communication terminal with two-way speech communication, incl. red call button, blue code blue/cardiac alarm button, green presence button (staff 1), yellow presence button (staff 2), 4 function keys as soft keys, microphone and loudspeaker.

1. Start configuration menu

- Press the top and bottom function keys simultaneously (5 sec.) until "Configuration" is shown in the display. Symbol meanings:
  ~ = Select menu item
  \+ = Increase shown value
  – = Decrease shown value
  X = Exit configuration menu (and store settings)

2. Entering of settings

Selecting the user language
- Press "~" until "Language" is shown.
- Press "+" or "–" until the desired language is shown
  D = German; GB = English; E = Spanish; F = French; NL = Dutch; I = Italian

Selecting the room type
- Press "~" until "Room type" is shown
- Press "+" or "–" until the desired room type is shown:
  - Patient room
  - Patient room with cancel key for WC call at ComTerminal
  - Staff room (emergency calls are signalled as normal calls)
  - Children's room (no "Private'" key at ComTerminal, Privacy OFF)
  - Connection terminal (keys and display at ComTerminal non-operational)

Setting of room address (01 - 63)
- Press "~" until "Address" is shown.
- Press "+" or "–" until the desired address is shown.

Setting of RAN number (00 - 30) (Room Area Network)
RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) which are connected to the ComTerminal via RAN .
(**No** pear push switch, **no** patient handset)
Attention, exception! One room lamp with 4 sections (order no. 77 0170 10 or 77 0171 10) is equivalent to **2** room devices.
- Press "~" until "RAN number" is shown.
- Press "+" or "–" until the desired RAN figure is shown.

3. Functional test

- Press "~" until "Test CCS/Test RAN" is shown.

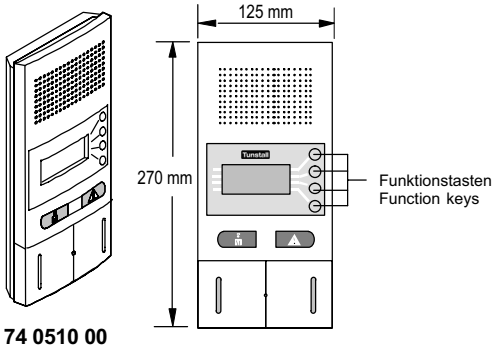
Test CCS
Test the correct connection of the ComTerminal to connection socket ComTerminal.
- Test start: Press "+" in the menu "Test CCS/Test RAN".
- Test result will be shown on the display.
  [⋆] Star moves to and fro regularly: Test o.k.
  If any other indication is shown: Test not o.k.: The ComTerminal is not correctly connected to the connection socket ComTerminal.
- End of test: Press "+" again.

Test RAN
Test if room devices are ready to operate and if they are correctly connected to the RAN. Check the correct setting of the RAN number.
- Test start: Press "–" in the menu "Test CCS/Test RAN".
- The LEDs of all connected room devices must flash. (Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection)
- Compare the number of connected room devices with the RAN number on the display [XX]. If the RAN number on the display is false, correct the setting after the RAN test as described above.
- End of test: Press "–" again.

4. Exit the configuration menu

When all settings are performed and all tests are finished, exit the configuration menu. During this procedure all settings are stored.
- Press "X" (= bottom function key).

Note: If for a period of three minutes no function key is pressed, the system will leave the configuration menu and the settings are stored.



74 0510 00
ComTerminal

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CE

Connection sockets

70 0171 03	Connection socket with call switch
70 0424 00	Connection socket combi
70 0434 00	Connection socket combi bedhead unit
70 0491 00	Connection socket ComTerminal
74 0452 50A	Connection socket ComStation

Installationsanleitung D

Steckvorrichtung mit Ruftaste, Best.-Nr. 70 0171 03
Steckvorrichtung mit zwei 8-poligen Steckbuchsen zum Anschluss von Rufgeräten, wie z.B. Birntastern oder medizinischen Überwachungsgeräten. Der Anschluss für ein drittes Rufgerät (externer Ruftaster) erfolgt von der Rückseite mit einer speziellen Anschlussleitung.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

1* Einbaudose
2* Anschlussklemme (70 0807 01)
3 Montagerahmen mit Leiterplatte (vormontiert)
4 Abdeckung
5 Klemmkralle (bei fehlender Schaubmöglichkeit)

* ist nicht im Lieferumfang enthalten.

1. Anschlussklemme **2** in die eingebaute Buchse (grün) der Leiterplatte **3** stecken.
2. Wenn gewünscht: Klemme der Anschlussleitung (50 0308 02) für das externe Rufgerät in die eingebaute Buchse (schwarz) auf der Leiterplatte **3** stecken.
3. Montagerahmen **3** an den Schraubpunkten der Einbaudose **1** verschrauben. Bei fehlender Schraubmöglichkeit dient die Klemmkralle **5** zur Befestigung des Montagerahmens. Klemmkralle nicht für Hohlwanddosen geeignet.
4. Abdeckung **4** über den Montagerahmen **3** drücken und einrasten lassen.

B Anschlüsse

Zum Anschluss als externe Rufgeräte dürfen nur Öffner-Kontakte verwendet werden. Der Anschluss erfolgt über die Anschlussleitung, Best.Nr. 50 0308 02 (Länge: 50 cm).
Die maximale Leitungslänge für den externen Rufanschluss beträgt 2,5 m.

C Bettennummer zuordnen

Über den Programmierschalter 1, 2 und 3 der Leiterplatte kann die entsprechende Bettennummer eingestellt werden.

***1** Achtung: Diagnostikruf nur in Verbindung mit eingestellter Bettennummer.
Bei Bettennummer 6 kann kein Diagnostikruf verwendet werden.

D Demontage

1. Schraubendreher an einer der beiden Rastnasen ansetzen und Abdeckung abheben.
2. Schrauben am Montagerahmen **3** lösen.
3. Anschlussklemme **2** abziehen.

Installation Instructions GB

Connection socket with call switch, order no. 70 0171 03
Connection socket with two 8pole jacks for connection of call devices like pear push switches or medical monitoring devices. The connection for a third call device (external call switch) is made on the back side with a special connection cable.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

1* Back box
2* Connector (70 0807 01)
3 Mounting frame with printed circuit board (pre-mounted)
4 Cover
5 Fixing clamp (if screw fixing is not possible)

* not included in delivery.

1. Plug the connector **2** into the green socket on the printed circuit board **3**.
2. If required: Plug the terminal of the connection cable (50 0308 02) for the external call device into the black socket on the printed circuit board **3**.
3. Fix the mounting frame **3** using the screwpoints of the back box **1**. If screw fixing is not possible, use the fixing clamp **5** to fix the mounting frame to the box. The fixing clamp cannot be used with back boxes for partition walls.
4. Fit the cover **4** over the mounting frame **3** and lock it.

B Connections

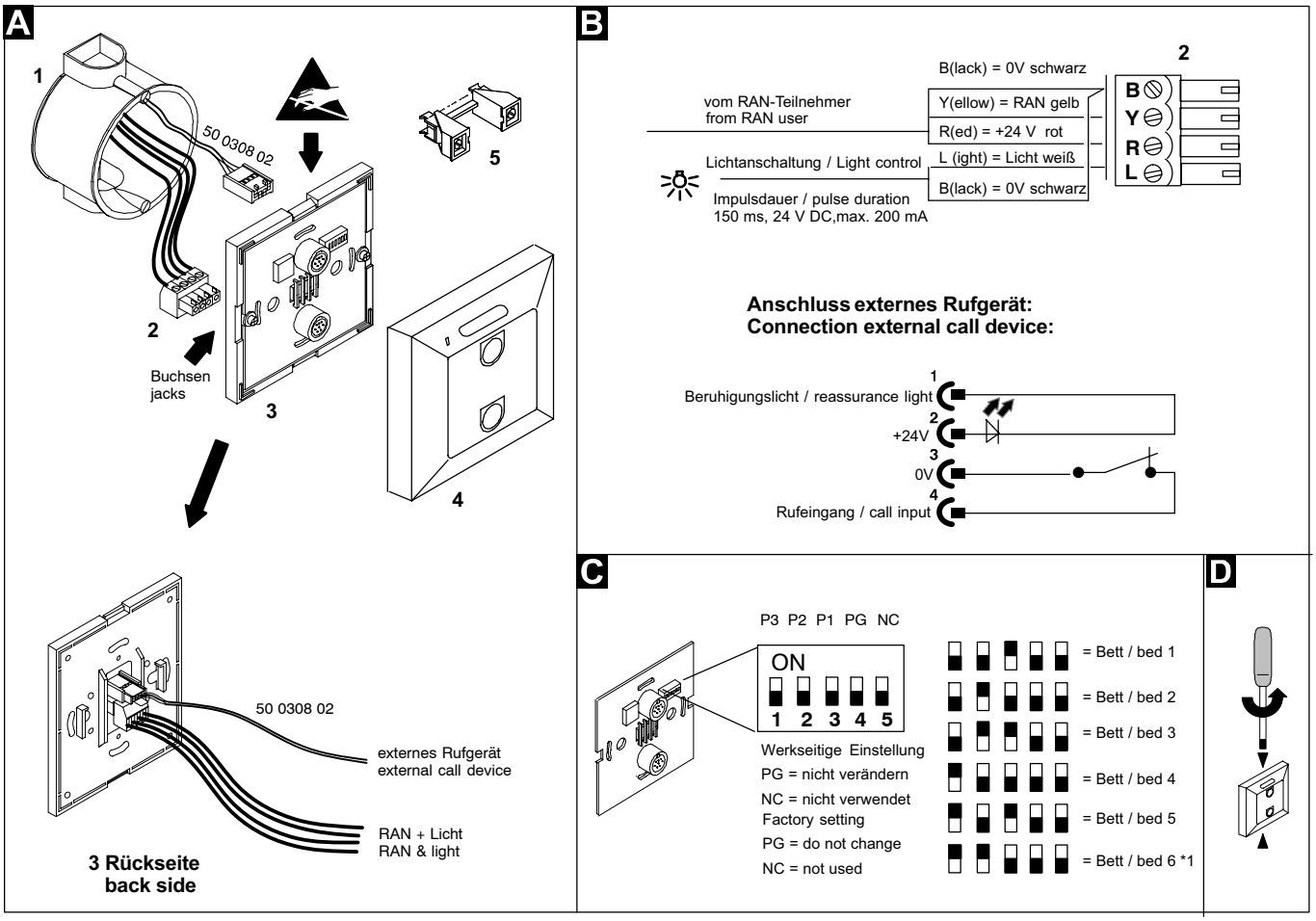
As external call devices only normally-closed contacts may be used. The external call device is connected via the special connection cable, order no. 50 0308 02 (length: 50 cm).
The maximum cable length for the external call device is 2.5 m.

C Assigning the bed number

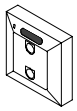
The corresponding bed number can be specified by means of the coding switches 1, 2 and 3 of the printed circuit board.
***1** Attention: Diagnostic call only in combination with programmed bed number.
With bed number 6 no diagnostic call can be used.

D Dismantling

1. Place the screwdriver in one of the two notches and take off the cover.
2. Remove the screws at the mounting frame **3**.
3. Remove the connector **2**.



70 0171 03
Steckvorrichtung mit Ruftaste
Connection socket with call switch



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Installationsanleitung D

Steckvorrichtung Kombi, Best.-Nr. 70 0424 00

Kombinierte Steckvorrichtung mit zwei unterschiedlichen Steckbuchsen zum Anschluss von Bedien- und Rufgeräten. Vorgesehen zur Übertragung von Rufen, ELA-Programmen und zur Steuerung von 2 Relais zur Lichtschaltung. Vorzugsweise hergestellt für den Wandeinbau.

Remarque! L'installation complète du système est décrite dans le manuel technique.

Attention! La platine électronique contient des composants sensible à l'ècticité statique. Veuillez de ce fait éviter tout contact direct.

A Montage

1. Buchsenelement **1** in die Einbaudose stecken.
2. Montagerahmen **2** zusammen mit dem Buchsenelement auf die Einbaudose schrauben.
3. Beide Stecker **3** mit den Steckbuchsen verbinden (Stecker A in Buchse A, Stecker B in Buchse B).
4. Abdeckplatte **4** auf den Montagerahmen **2** drücken.

B Anschluss

- Verwendbare Leitungsquerschnitte: 0,55 - 1 mm Ø.
- Abgeschirmte Leitungen für LS, MIC bis auf max. 30 mm absetzen!
- Zur Vermeidung von Kurzschlüssen den Beidraht (SCH) isolieren.
- Nur einen Schaltdraht pro Klemme einstecken.

Handhabung der Klemmen mit lötfreier Anschlusstechnik nach dem Steckklemmprinzip:

1. Leiter 8 mm abisolieren.
2. Abisolierten Leiter bis zum Anschlag in die Klemme stecken.
3. Zum Lösen des Leiters einen Schraubendreher mit einer Klinge 2,5 x 0,4 mm oder 3,5 x 0,5 mm in die Öffnung stecken und den Leiter herausziehen.

Hinweis! Zum Anschluss des Schirmdrahts Schraubendreher in die Öffnung stecken und Federkontakt mit dem Schraubendreher geöffnet halten, während Sie die Schirmleitung einführen. Anschließend korrekte Kontaktbelegung prüfen durch Ziehen an der Leitung.

TV

In Verbindung mit der Anschaltung eines TV-Geräts ist die Bedienung und der zur Verfügung stehende Funktionsumfang unterschiedlich und abhängig von dem verwendeten TV-Gerät sowie der integrierten Steuerung. Genaue Einzelheiten der Anschaltung und der Funktionen sollten vor der Installation mit dem Auftraggeber geklärt werden.

C Bettennummer und TV-Option einstellen

Bettennummer 1 bis 6 einstellen: Mit den Schaltern P3, P2, P1 wie in der Tabelle abgebildet einstellen. Beispiel.: Bettenummer 1 = P3 off, P2 off, P1 on .
TV auf ON: Hörfunkbetrieb über Tuner im TV-System.
TV auf OFF: Hörfunkbetrieb über ELA
PG-Schalter nicht verändern.
*1 Achtung: Bei Bettennummer 6 kann kein Diagnostik-Ruf verwendet werden.

Installation Instructions GB

Connection socket combi, order no. 70 0424 00

A combined connection socket with two different sockets for connection of patient units and call devices. Designed for transmission of calls, entertainment programmes and control of two relays for light switching. Suitable for wall mounting.

Nota! L'installazione completa del sistema è descritta nel manuale tecnico.

Attenzione! La scheda elettronica contiene componenti sensibili alle scariche elettrostatiche. Evitare contatti diretti con mani o utensili.

A Mounting

1. Fit the socket **1** into the back box.
2. Screw the mounting frame **2** together with the socket onto the back box.
3. Connect both plugs **3** with the sockets (A in A, B in B).
4. Push the cover **4** onto the mounting frame **2**.

B Connection

- Useable wire gauges: 0.55 - 1 mm Ø
- Shielded wires for LS, MIC: Strip to max. 30 mm!
- Insulate the guide wire (SCH) to prevent short circuiting.
- Connect only one wire per terminal.

Handling of terminals with solderless connection technique:

1. Strip the wire (8 mm).
2. Insert the stripped wire into the terminal until it stops.
3. For detaching the wire insert a screw driver with a tip of 2.5 x 0.4 mm or 3.5 x 0.5 mm into the opening and pull out the wire.

Note! For connecting the shield wire, use the screw driver to hold the spring contact open, while you are inserting the shield wire. Afterwards check for a firm wire contact by pulling at the wire.

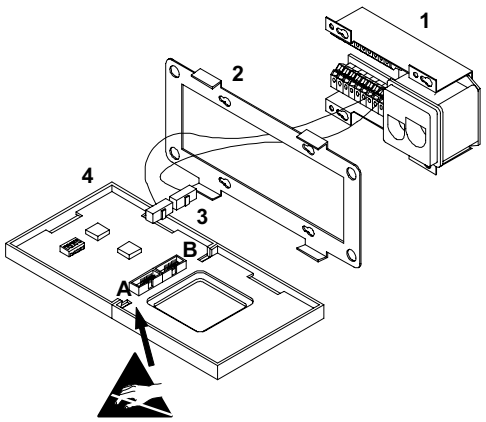
TV

The available TV functions depend on the TV set in use.
Before the final installation, technicians shall check with the ordering party for the project to clarify the details regarding the connection and the functions.

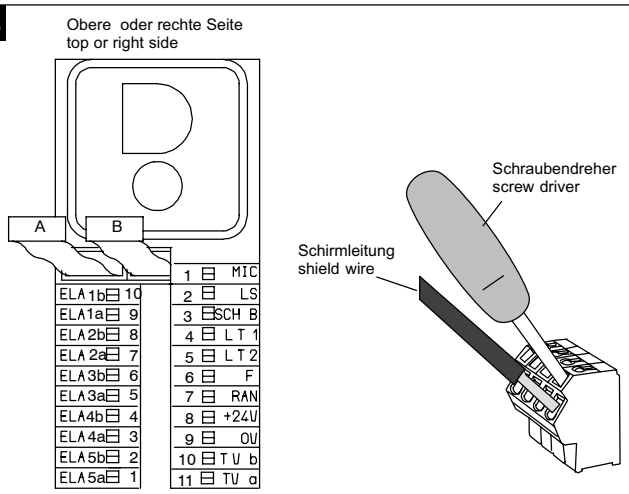
C Setting bed number and TV option

Setting of bed numbers 1 to 6: Use switches P3, P2, P1 as shown in the table.
Example: Bed number 1 = P3 OFF, P2 OFF, P1 ON
TV to ON: Radio sound via tuner in TV system.
TV to OFF: Radio sound via Entertainment (ELA).
PG switches: Do not change.
*1 Attention: With bed number 6 diagnostic call is not possible.

A



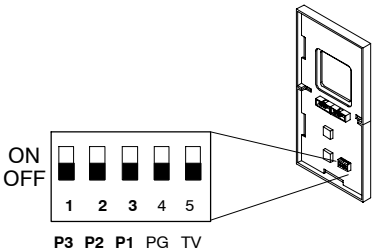
B



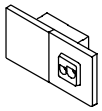
C

	P3	P2	P1
1	off	off	on
2	off	on	off
3	off	on	on
4	on	off	off
5	on	off	on
6	on	on	off

*1



70 0424 00
Steckvorrichtung Kombi
Connection socket combi



CE

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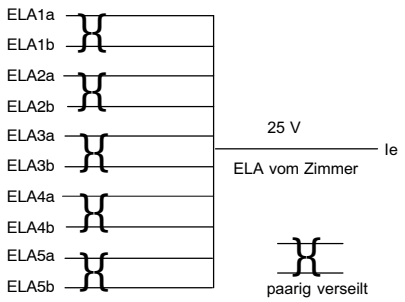
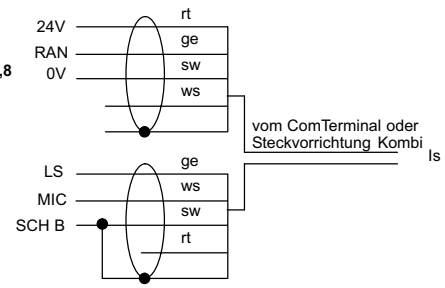
Anschlüsse D

ELA

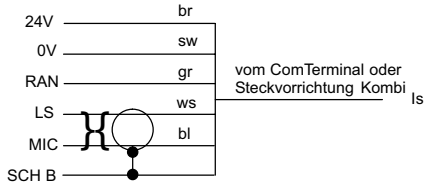


Zimmerbus (RAN)

Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel: 2x IY(ST)Y 2x2x0,8

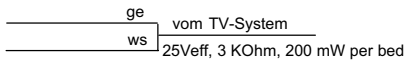


Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel: CCS32-Kabel



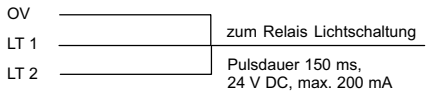
TV

TV-Ton zum Bett



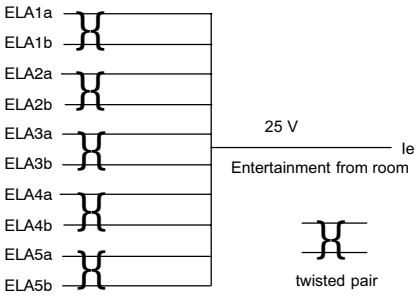
Licht

Anschaltung Lichtrelais



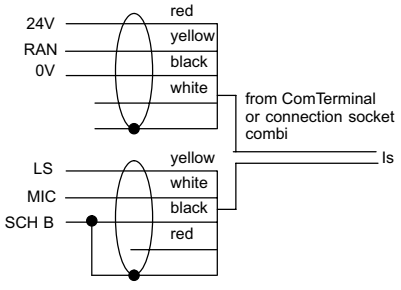
Connections GB

Entertainment

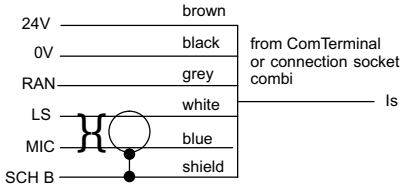


Room bus (RAN)

Romm bus (RAN)
(max. 2 connections)
Cable: 2x IY(ST)Y 2x2x0.8

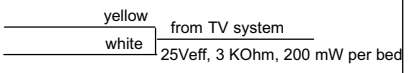


Room bus (RAN)
(max. 2 connections)
Cable: CCS32-Kabel



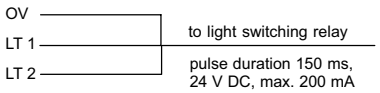
TV

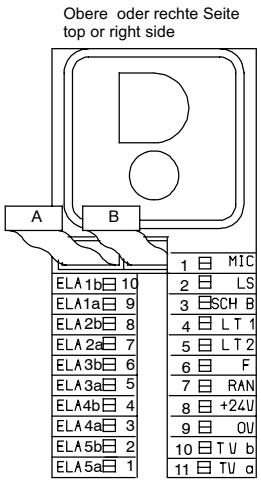
TV sound to the bed



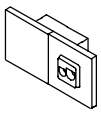
Light

Connection of ligth relay





70 0424 00
Steckvorrichtung Kombi
Connection socket combi



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Installationsanleitung D

Steckvorrichtung Kombi Kanal, Best.-Nr. 70 0434 00

Kombinierte Steckvorrichtung mit zwei unterschiedlichen Steckbuchsen zum Anschluss von Bedien- und Rufgeräten. Vorgesehen zur Übertragung von Rufen, ELA-Programmen und zur Steuerung von 2 Relais zur Lichtschaltung.
Vorzugsweise hergestellt für den Einbau in medizinische Versorgungseinheiten.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Elektromagnetische Verträglichkeit! Durch unzureichende Entstörung von Leuchtstofflampen in medizinischen Versorgungseinheiten kann es zu Störungen der Rufanlage kommen. Unter Umständen lassen sich diese externen Störungen durch den Einbau von Entstörgliedern (Varistor-Schaltungen) vermeiden. Die Varistor-Schaltungen sind bei den Herstellern zu beziehen. Tunstall bietet hierfür das Überspannungsschutzfilter 230 V (70 0890 97) an.
Das EMV-Verhalten von verschiedenen medizinischen Versorgungseinheiten kann sehr unterschiedlich sein. Sogar zwei Versorgungseinheiten des gleichen Typs können sich unterschiedlich verhalten, wenn sie unterschiedlich installiert wurden.

In medizinischen Versorgungseinheiten gelten für die Verlegung der Leitungen der Rufanlage die Bestimmungen von DIN EN ISO 11197.

A Steckvorrichtung einstellen

Folgende Einstellungen müssen vor Einbau der Steckvorrichtung gemacht werden:

1. Bettennummer einstellen

Bett-Nr.	Jumper gesteckt:
Bett 1	P1
Bett 2	P2
Bett 3	P1, P2 (werkseitige Einstellung)
Bett 4	P3
Bett 5	P1, P3
Bett 6*)	P2, P3

*) Bei Bett-Nr. 6 kann kein Diagnostikruf verwendet werden.

2. Lichtoption

Jumper offen:	Separate Ausgänge LT1 und LT2 für die Lichtrelais (Lichttasten separat)
Jumper gesteckt:	Ausgänge LT1 und LT2 sind verbunden (Lichttasten parallel). In diesem Fall nur ein Relais anschließen.

3. TV-Option

Jumper 1 gesteckt:	Hörfunkbetrieb über ELA (werkseitige Einstellung).
Jumper 2 gesteckt:	Hörfunkbetrieb über Tuner im TV-System.

4. TV-Tonkanal TV1 - TV4

Für diese Einstellung werden immer 2 Jumper gesteckt.
Bei sternförmig verteiltem TV-Ton wird der Tonkanal entsprechend der Bett-Nummer eingestellt.

Bett-Nr.	Jumper gesteckt:
Bett 1	TV1
Bett 2	TV2
Bett 3	TV3
Bett 4	TV4

Bei parallel verteiltem TV-Ton wird der Tonkanal 1 gewählt.

TV-Ton

Die verfügbaren TV-Funktionen hängen von dem verwendeten TV-Gerät ab. Einzelheiten der Anschaltung und der Funktionen sollten vor der Installation mit dem Auftraggeber geklärt werden.

Montage

Der Einbau der Steckvorrichtung in die medizinische Versorgungseinheit ist von der jeweiligen Ausführung der Versorgungseinheit abhängig.

1. Gehäuse der medizinischen Versorgungseinheit öffnen.
2. Steckvorrichtung einsetzen.
3. Das Flachbandkabel zum Anschluss an die mediz. Versorgungseinheit aufstecken.
4. Bei vorhandenem Bettenlicht auch den Anschluss zum Lichtrelais aufstecken.
5. Gehäuse der medizinischen Versorgungseinheit schließen.

Installation Instructions GB

Connection socket combi bedhead unit, order no. 70 0434 00

Combined connection socket with two different sockets for connection of patient handsets and other call devices. Designed for transmission of calls, entertainment programmes and control of two relays for light switching.
Suitable for mounting in medical supply units.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Electromagnetic compatibility! Due to insufficient suppression at fluorescent lamps in medical supply units faults in the call system may occur. These external interferences possibly can be avoided by installing suppressor elements (varistor circuits). Varistor circuits are commercially available from electric/electronic suppliers. Tunstall offers a proven overvoltage filter 230 V (order no. 70 0890 97).
Medical supply units may differ clearly in EMC behaviour. Even two supply units of the same type may differ, if the installation is different.

When laying call system cables in medical supply units the regulations of European standard ISO 11197 have to be followed.

A Setting the connection socket

Before mounting the connection socket please adjust as follows:

1. Setting of bed numbers

Bed no.	jumper placed:
Bed 1	P1
Bed 2	P2
Bed 3	P1, P2 (factory setting)
Bed 4	P3
Bed 5	P1, P3
Bed 6*)	P2, P3

*) When using bed number 6 no diagnostic call can be used.

2. Light option

Jumper open:	Separate outputs LT1 and LT2 for the light relays (light switches are separate).
Jumper placed:	Outputs LT1 and LT2 are connected (light switches are parallel). In this case connect only one relay.

3. TV option

Jumper 1 placed:	Radio via entertainment system (factory setting).
Jumper 2 placed:	Radio via tuner in TV system.

4. TV tone TV1 - TV4

For this settings, always place 2 jumpers.
Where star-type distribution of TV tone is provided, the tone channel is set in reference to the bed number.

Bed no.	Jumper gesteckt:
Bed 1	TV1
Bed 2	TV2
Bed 3	TV3
Bed 4	TV4

Where TV tone is parallel, select tone channel 1.

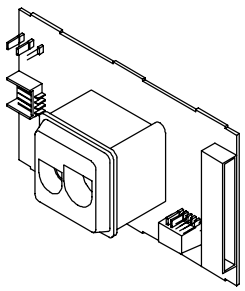
TV-Ton

The available TV functions depend on the TV set in use. Before the final installation, technicians shall check with the ordering party for the project to clarify the details regarding the connection and the functions.

Mounting

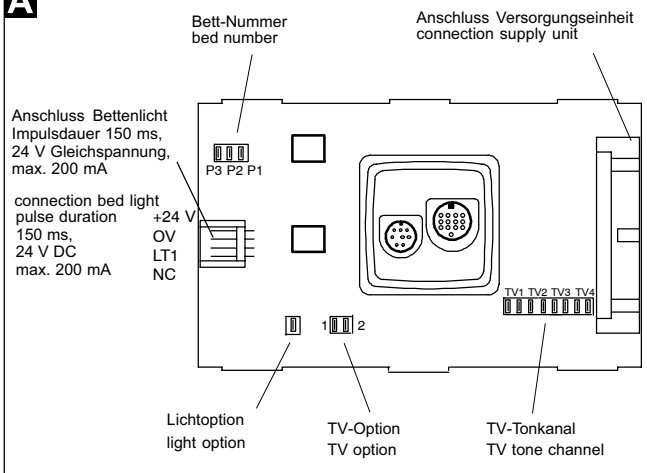
After the settings are made the connection socket is mounted into the medical supply unit. The mounting depends on the individual model of the medical supply unit.

1. Open the housing of the medical supply unit.
2. Put in the connection socket.
3. Put on the flat band cable to the medical supply unit.
4. If there is bedlight available put on also the connection to the light relay.
5. Close the housing of the medical supply unit.



70 0434 00
Steckvorrichtung Kombi Kanal
Connection socket combi bedhead unit

A



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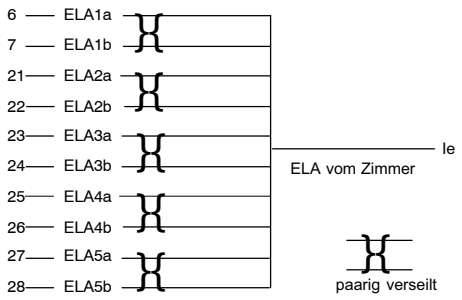
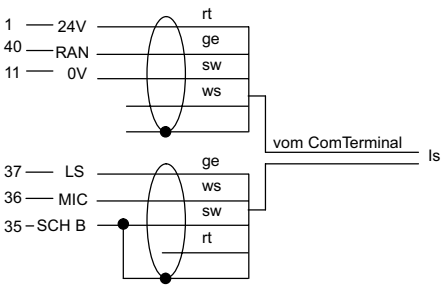
Anschlüsse am Anschlussfeld D

ELA

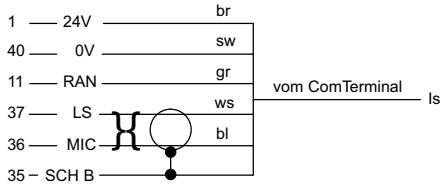


Zimmerbus (RAN)

Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel:
2x IY(ST)Y 2x2x0,8



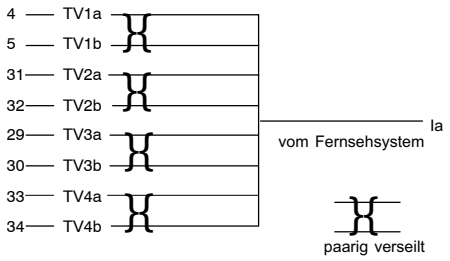
Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel:
CCS32-Kabel



Abgeschirmte Leitungen für LS, MIC dürfen maximal 30 mm abgemantelt werden!

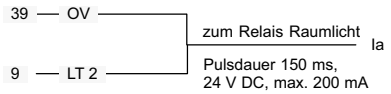
TV

TV-Ton zum Bett



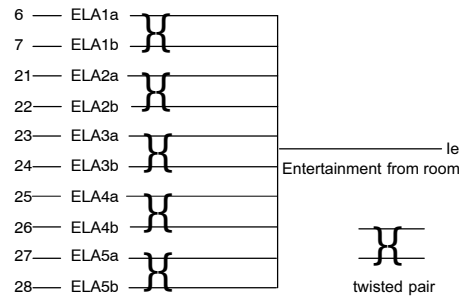
Licht

Anschaltung Lichtrelais



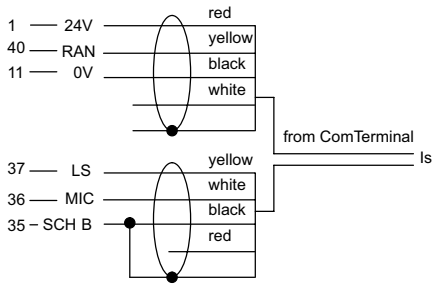
Connections to connection field GB

Entertainment

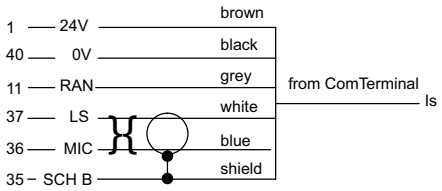


Room bus (RAN)

Romm bus (RAN)
(max. 2 connections)
Cable:
2x IY(ST)Y 2x2x0.8



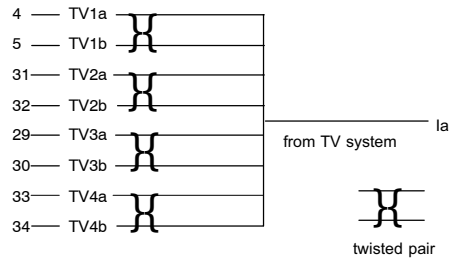
Room bus (RAN)
(max. 2 connections)
Cable:
CCS32-Kabel



Shielded wires for LS, MIC: strip to max. 30 mm!

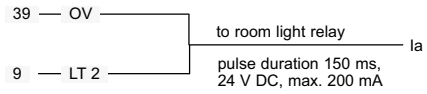
TV

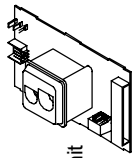
TV sound to the bed



Light

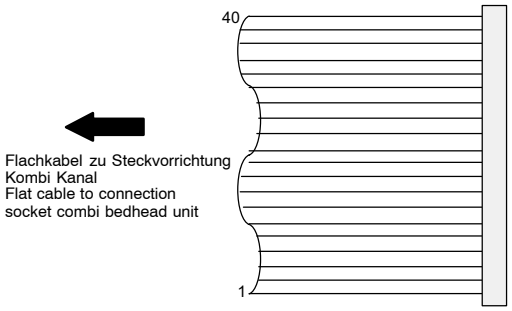
Connection of ligth relay



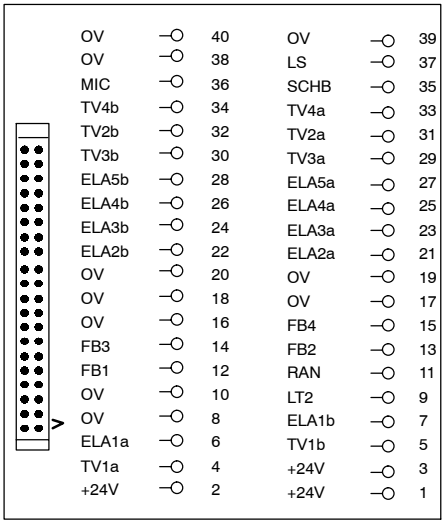


70 0434 00
Steckvorrichtung Kombi Kanal
Connection socket combi bedhead unit

Anschlussfeld Versorgungseinheit (Beispiel)
Connection field supply unit (example)



Klemmennummern wie Flachkabel
Terminal numbers as flat cable



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Installationsanleitung D

Steckvorrichtung ComTerminal, Best.-Nr. 70 0491 00
Steckvorrichtung zum Anschluss eines ComTerminals im System Flamenco an den Gruppenbus (OSYnet) oder eines ComTerminals im System EccoLine oder NewLine oder eines RAN-Multiplexers an den Stationsbus (CCS-Bus). Passend für zweiteilige Einbaudosen.

Hinweis! Die vollständige Installation des Systems ist im Installationshandbuch beschrieben.

A Einbaudose setzen

Achtung! Beachten Sie beim Setzen der Einbaudose den Platzbedarf des ComTerminals. Vom Mittelpunkt der Einbaudose muss nach oben und unten ein Platzbedarf von mindestens 150 mm vorgesehen werden.

B Anschlüsse

1 Anschluss ComTerminal
2 Sicherung 1A/F
Bestell-Nr. 00 0130 24
3 Anschluss Stromversorgung
4 Anschlussklemmen für RAN, Gruppenbus und ELA (ELA nicht bei Flamenco)

Wichtige Hinweise
- Verwendbare Leitungstypen:
Stromversorgung: 2,5 mm^2, übrige Leitungen: 0,55 - 1 mm Ø
- Alle Leitungen für die Musik- oder Sprachübertragung (geschirmte Leitungen) dürfen max. 30 mm abgemantelt werden, damit die Schirmfunktion erhalten bleibt.
- Zur Vermeidung von Kurzschlüssen den Beidraht (SCH) isolieren.
- Nur einen Schaltdraht pro Klemme eindrücken.

C Anschlusstechnik

Handhabung der Klemmen mit lötfreier Anschlusstechnik nach dem Steckklemm-Prinzip
1. Leiter 8 mm abisolieren.
2. Abisolierten Leiter bis zum Anschlag in die Klemme stecken. Zum leichteren Hineinschieben (z.B. bei CAT5-Kabeln) einen kleinen Schraubendreher in die Öffnung stecken (siehe Zeichnung), während Sie den Leiter hineinschieben.
3. Zum Lösen des Leiters einen kleinen Schraubendreher in die Öffnung stecken und den Leiter herausziehen.

Installation Instructions GB

Connection socket ComTerminal, order no. 70 0491 00
Connection socket for connecting a ComTerminal in Flameco system to the group bus (OSYnet) or a ComTerminal in EccoLine or NewLine system or a RAN multiplexer to the ward bus (CCS bus). Suitable for 2-gang back box.

Note! The complete installation of the system is described in the installation manual.

A Placing the back box

Attention! When installing the back box please notice the required space for the ComTerminal. From centre of the back box to the top and to the bottom, a space of at least 150 mm should be allowed.

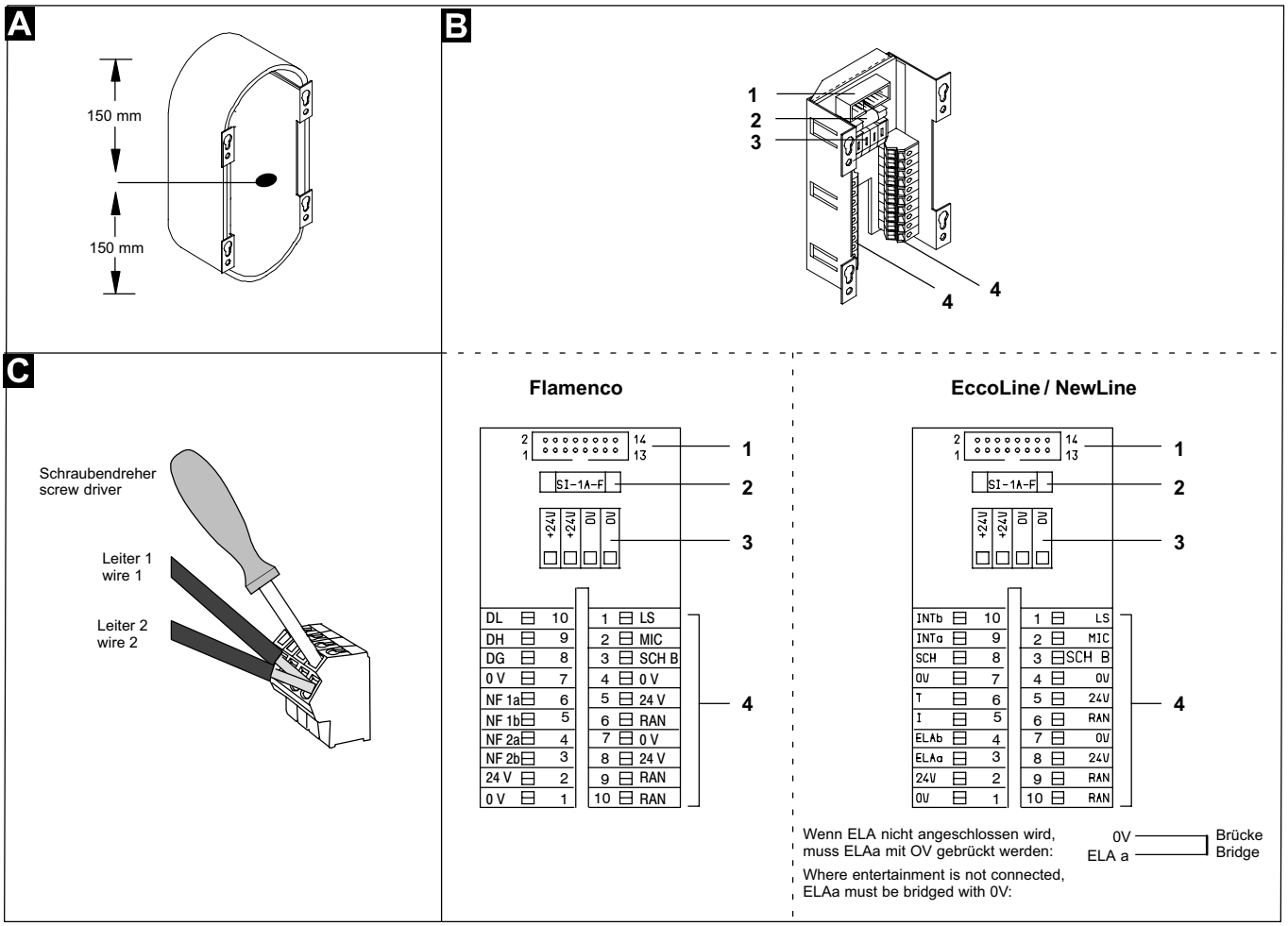
B Connections

1 Socket for ComTerminal
2 Fuse1A/Fast acting
order no. 00 0130 24
3 Connection to power supply
4 Connections for RAN, group bus and entertainment (Flamenco: no entertainment)

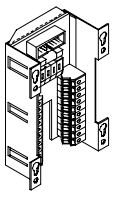
Important notes
- Usable cable types: Mains: 2,5 mm^2, other wires: 0,55 - 1 mm Ø
- All cables for music or speech transmission (shielded cables) shall be stripped to a maximum of 30 mm to maintain the shielding function.
- Insulate the shield wire (SCH) to prevent short circuiting.
- Insert only one wire per connection terminal.

C Connection technique

Handling of terminals with solderless connection technique:
1. Strip the wire to 8 mm.
2. Insert the stripped wire into the terminal until it stops. To make insertion easier (e.g. for CAT5 cable) put a small screw driver into the opening (see diagram) while inserting the wire.
3. For detaching the wire put a small screw driver into the opening and pull out the wire.



70 0491 00
Steckvorrichtung ComTerminal
Connection socket ComTerminal



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Anschlüsse D

Strom

Stromversorgung
Kabel: NYM 2x2,5 mm²

+24 V, 0 V — vom letzten Zimmer oder zum nächsten Zimmer

Zimmerbus (RAN)

Zimmerbus (RAN) mit Sprechen
(max. 2 Anschlüsse)
Kabel: 2x IY(ST)Y 2x2x0,8

24V, RAN, 0V — rt, ge, sw, ws — zur Steckvorrichtung Kombi oder Kombi Kanal

LS, MIC, SCH B — ge, ws, sw, rt

Zimmerbus (RAN) mit Sprechen
(max. 2 Anschlüsse)
Kabel: CCS32-Kabel

24V, 0V, RAN, LS, MIC, SCH B — br, sw, gr, ws, bl — zur Steckvorrichtung Kombi oder Kombi Kanal

Zimmerbus (RAN) ohne Sprechen
(max. 4 Anschlüsse)
Kabel: IY(ST)Y 2x2x0,8

24V, RAN, 0V — rt, ge, sw, ws — vom RAN-Teilnehmer

Stationsbus / Gruppenbus

Gruppenbus OSYnet (nur Flamenco)
Kabel: CAT5-Kabel

DL, DH, DG*), NF 1a, NF 1b, NF 2a, NF 2b — ws-bl, bl, ws-gn, gn, br, ws-br, or, ws-or — vom vorigen Zimmer oder zum nächsten Zimmer

Gruppenbus OSYnet (nur Flamenco)
Kabel: IY(ST)Y 4x2x0,8

DL, DH, DG*), NF 1a, NF 1b, NF 2a, NF 2b — rt, bl, gn, ws, br, ws, ge, ws — vom vorigen Zimmer oder zum nächsten Zimmer

Stationsbus CCS (nur EccoLine, NewLine)
Kabel: CCS 32-Kabel

0V, T, I, INT a, INT b, SCH — sw, br, gr, ws, bl — vom vorigen Zimmer oder zum nächsten Zimmer

entfällt in Systemen ohne Sprechen

ELA

ELA, selektierter Kanal (nur EccoLine, NewLine)
Kabel: 2xIYY pro Kanal oder ähnliche Leitungen

ELA a, ELA b — zur ELA-Reglerkombination, Best.-Nr. 08 5130 00

Connections GB

Power

Power supply
Cable: NYM 2x2.5 mm²

+24 V, 0 V — from previous room or to next room

Room bus (RAN)

Romm bus (RAN) with speech
(max. 2 connections)
Cable: 2x IY(ST)Y 2x2x0.8

24V, RAN, 0V — red, yellow, black, white — to connection socket combi or combi, bedhead unit

LS, MIC, SCH B — yellow, white, black, red

Room bus (RAN) with speech
(max. 2 connections)
Cable: CCS32-Kabel

24V, 0V, RAN, LS, MIC, SCH B — brown, black, grey, white, blue, shield — to connection socket combi or combi, bedhead unit

Room bus (RAN) without speech
(max. 4 connections)
Cable: IY(ST)Y 2x2x0.8

24V, RAN, 0V — red, yellow, black, white — from RAN user

Ward bus / Group bus

Group bus (OSYnet) (Flamenco only)
Cable: CAT5 cable

DL, DH, DG*), NF 1a, NF 1b, NF 2a, NF 2b — white-blue, blue, white-green, green, brown, white-brown, orange, white-orange — from previous room or to next room

Group bus (OSYnet) (Flamenco only)
Cable: IY(ST)Y 4x2x0.8

DL, DH, DG*), NF 1a, NF 1b, NF 2a, NF 2b — red, blue, green, white, brown, white, yellow, white — from previous room or to next room

Ward bus CCS (EccoLine and NewLine only)
Cable: CCS 32 cable

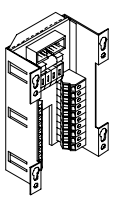
0V, T, I, INT a, INT b, SCH — black, brown, grey, white, blue, shield — from previous room or to next room

to be dropped in systems without speech

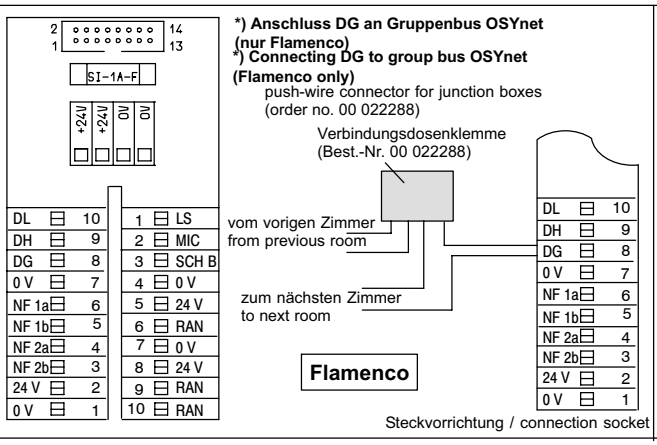
Entertainm.

Entertainment, selected channel (EccoLine and NewLine only)
Cable: 2xIYY per channel or similar cables

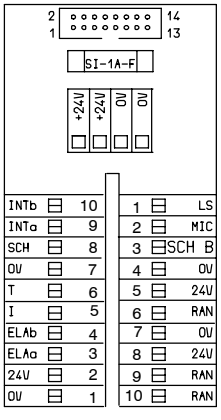
ELA a, ELA b — to programme control unit, order no. 08 5130 00



70 0491 00
Steckvorrichtung ComTerminal
Connection socket ComTerminal



EccoLine NewLine



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Installationsanleitung D

Steckvorrichtung ComStation, Best.-Nr. 74 0452 50A
Datensteckdose zum Anschluss einer ComStation^{CT} (Tischgerät), eines Tischadapters für ComTerminal, einer EccoLine ComStation oder einer ComStation L200.

- Vorzugsweise hergestellt für den Wandeinbau.
- Passend für zweiteilige Einbaudose (Einbaudose nicht im Lieferumfang)
- 15-polige Buchse als Datensteckdose.
- Vorbereitet für 15-poligen Stecker mit mechanischer Verriegelung.
- 4 Steckklemmen zum Anschluss der 24 V Stromversorgung bis 2,5 mm^2.
- Anschlüsse als Steckklemmen für Massivdraht, ø 0,55 - 1 mm.
- Kontaktbelastung: max. 3 A

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

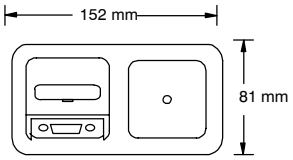
Installation Instructions GB

Connection socket ComStation, order no. 74 0452 50A
Data socket for connection of a ComStation^{CT} (desktop unit), a desktop adapter for ComTerminal, an EccoLine ComStation or a ComStation L200.

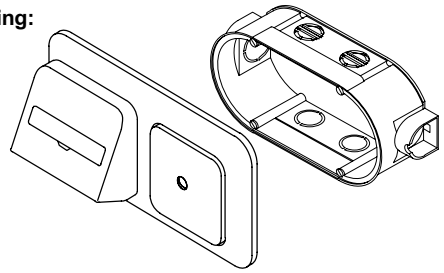
- Preferably made for wall mounting.
- Suitable for 2-gang back box (back box not included with delivery)
- 15 pole socket as data socket
- Prepared for 15 pole plug with mechanical locking mechanism
- 4 plug-in terminals up to 2.5mm^2 for connection of the 24 V supply voltage
- Connection as plug-in terminals for solid wire of ø 0.55 - 1 mm.
- Contact current: max. 3 A

Note! The complete installation of the system is described in the technical manual.

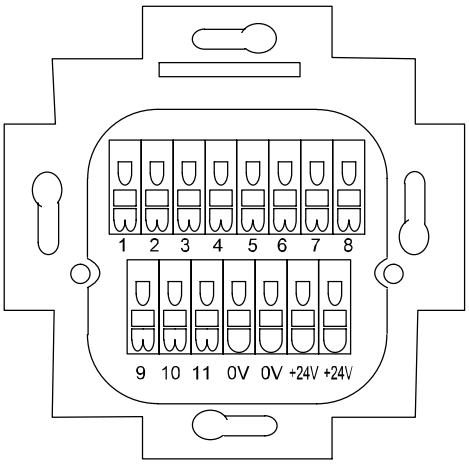
Abmessungen / Dimensions:



Montage / Mounting:

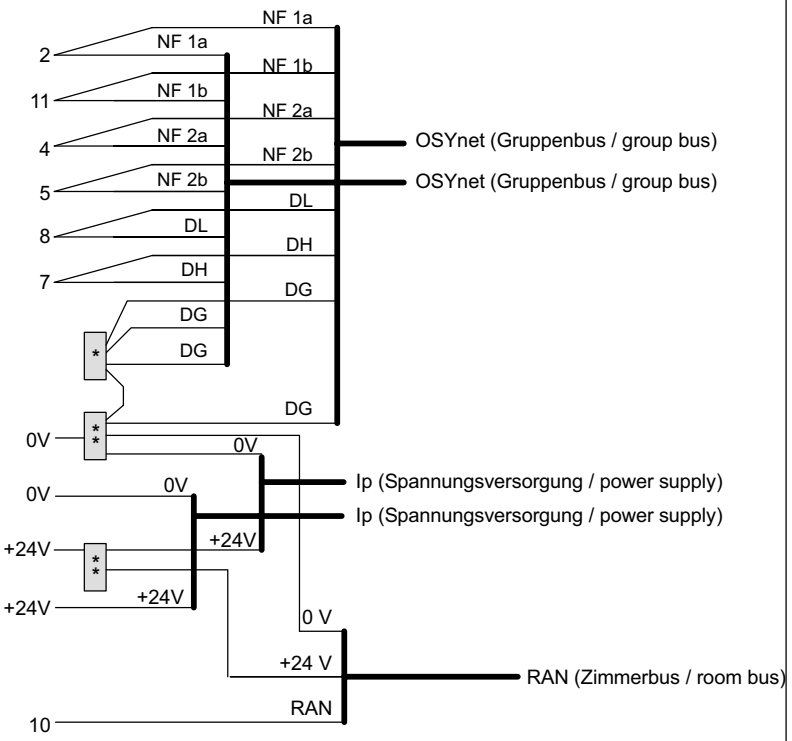


A **Anschlussplan für ComStation^{CT}, Tischgerät, Best.-Nr. 77 0601 00, Tischadapter, Best.-Nr. 77 0900 00**
Connection plan for ComStation^{CT}, desktop unit, order no. 74 0601 00, Desktop adapter, order no. 77 0900 00



* Verbindungsdosenklemme, 4-polig (00 0222 88)
Leitungs-Ø: 0,6 - 0,8 mm
push-wire connector, 4 pole (00 0222 88)
wire diameter: 0.6 - 0.8 mm

** Verbindungsdosenklemme, 5-polig (00 0210 21)
Leitungs-Ø: 0,8 - 1,8 mm
push-wire connector, 5 pole (00 0210 21)
wire diameter: 0.8 - 1.8 mm



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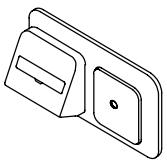
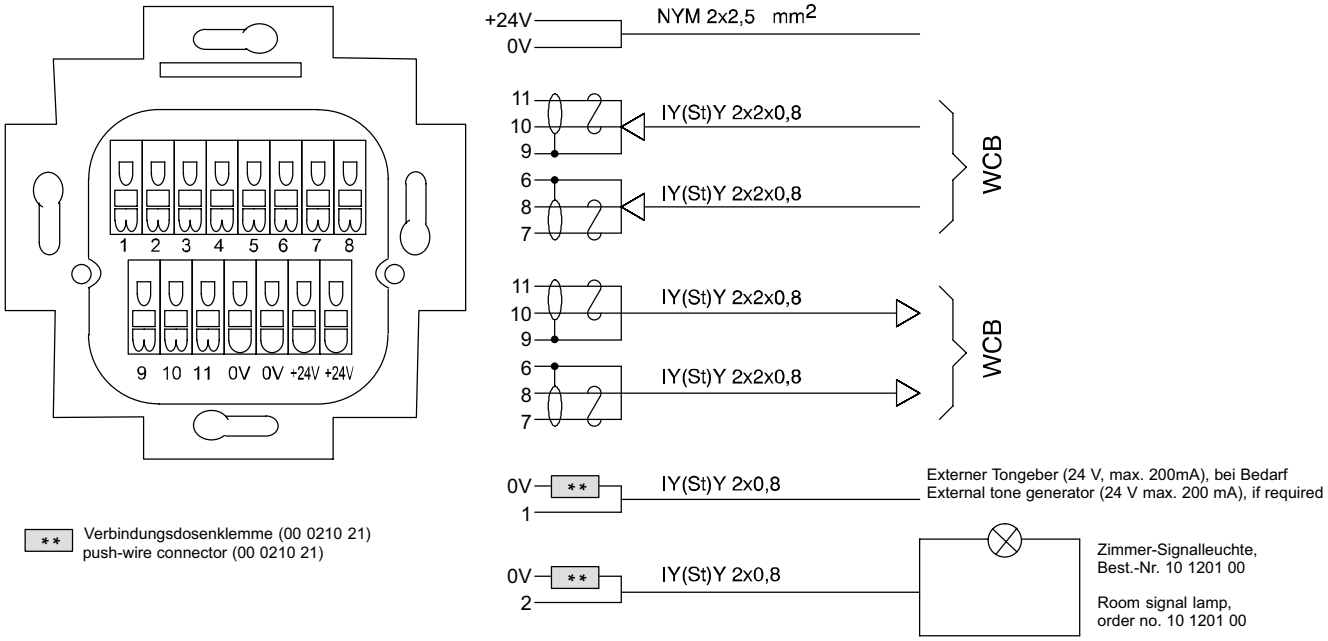
74 0452 50A
Steckvorrichtung ComStation
Connection socket ComStation

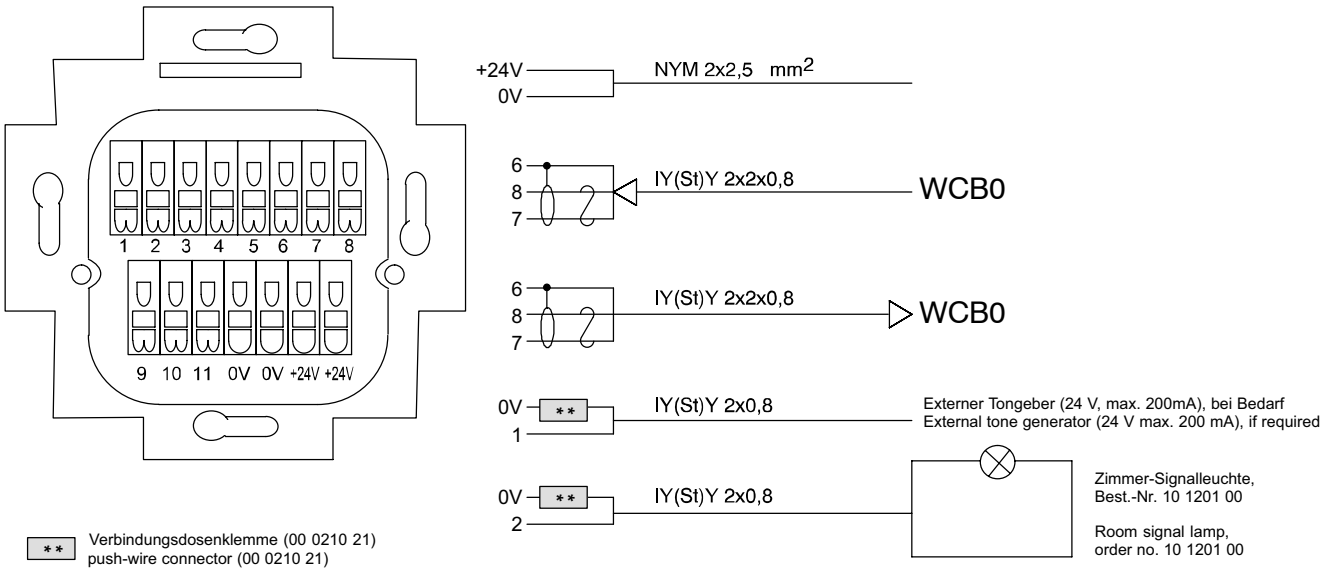


B Anschlussplan für EccoLine ComStation, Best.-Nr. 74 3200 00A
Connection plan for EccoLine ComStation, order no. 74 3200 00A



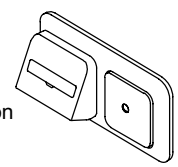
** Verbindungsdosenklemme (00 0210 21)
push-wire connector (00 0210 21)

C Anschlussplan für ComStation L200, Best.-Nr. 73 3200 00A
Connection plan for ComStation L200, order no. 73 3200 00A



** Verbindungsdosenklemme (00 0210 21)
push-wire connector (00 0210 21)

74 0452 50A
Steckvorrichtung ComStation
Connection socket ComStation



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Consoles

77 0601 00	ComStation^{CT}, desktop unit
77 0602 00	ComStation^{PC}

Konfigurationsanleitung D

ComStation^{CT}, Tischgerät, Best.-Nr. 77 0601 00
Terminal in Gegensprechtechnik inkl. rote Ruftaste, blaue Alarmtaste, grüne Anwesenheitstaste (AW1), gelbe Anwesenheitstaste (AW2), 4 Funktionstasten mit situationsabhängiger Belegung, Mikrofon und Lautsprecher. Vorgesehen zur Tischaufstellung am Dienststützpunkt. Vorzugsweise zur Bearbeitung von Rufen und zum Ansprechen von Räumen mit eingeschalteter Personalanwesenheit. Auslösung von Rufen oder Alarmen zur Anforderung von weiterem Personal möglich.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

1. Konfigurationsmenü starten

- Oberste und unterste der 4 Funktionstasten gleichzeitig so lange (5 Sek.) gedrückt halten, bis "Konfiguration" im Display erscheint. Bedeutung der Symbole:
  ~ = Menüpunkt auswählen
  + = Größeren Wert einstellen
  – = Kleineren Wert einstellen
  X = Konfigurationsmenü verlassen (und Einstellungen speichern)

2. Einstellungen vornehmen

Sprache einstellen
- So oft "~" drücken, bis "Sprache" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte Sprache erscheint: D = Deutsch, GB = Englisch, E = Spanisch, F = Französisch, NL = Niederländisch, I = Italienisch

Raumtyp einstellen
- So oft "~" drücken, bis "Raumtyp" erscheint.
- So oft "+" oder "–" drücken, bis der Raumtyp "Dienstzimmer" erscheint. (Die Einstellung "Dienstzimmer" bewirkt, dass Notrufe als Normalrufe signalisiert werden)

Zimmer-Adresse einstellen (01 - 63)
- So oft "~" drücken, bis "Adresse" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte Adresse erscheint.

RAN Anzahl einstellen (00 - 30)
RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die über RAN angeschlossen sind (**Kein** Birntaster, **keine** PBK Hand, **keine** Steckvorrichtung ComStation).
- So oft "~" drücken, bis "RAN Anzahl" erscheint.
- So oft "+" oder "–" drücken, bis gewünschte RAN Anzahl erscheint.

3. Funktionstest "Test RAN" durchführen

Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind. Test, ob RAN Anzahl korrekt eingestellt ist.
- So oft "~" drücken, bis "Test CCS/Test RAN" erscheint.
- Test Starten: "–" im Menü "Test CCS/Test RAN" drücken.
- Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. (Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen)
- Prüfen, ob Anzahl angeschlossener Zimmergeräte mit RAN Anzahl im Display [XX] übereinstimmt. (Falls RAN Anzahl im Display falsch, diese nach dem RAN Test wie oben beschrieben einstellen)
- Test beenden: Erneut "–" drücken.

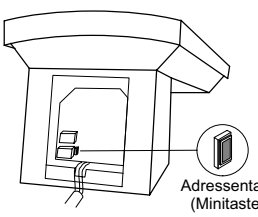
4. Konfigurationsmenü verlassen

Wenn keine Einstellungen mehr vorgenommen werden sollen und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen. Dabei werden die Einstellungen gespeichert.
- "X" (= unterste Funktionstaste) drücken.

Hinweis: Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen und die Einstellungen gespeichert.

5. Zimmer-Adresse übernehmen

In die ComStation^{CT} (Tischgerät) ist eine Leiterplatte eingebaut, auf der dieselbe Zimmer-Adresse gespeichert werden muss, die im Konfigurationsmenü eingestellt wurde. Das heißt, die im Konfigurationsmenü (siehe oben) eingestellte Adresse muss auf die eingebaute Leiterplatte übernommen werden. Hierzu muss die Abdeckung an der Rückseite der ComStation^{CT} abgeschraubt werden.



1. Anwesenheitstaste an der ComStation^{CT} einschalten.
2. Adressen-Taste an der eingebauten Leiterplatte einmal drücken.
3. Anwesenheitstaste an der ComStation^{CT} ausschalten.

Die im Konfigurationsmenü eingestellte Adresse ist nun auch in der eingebauten Leiterplatte gespeichert.

Configuration Instructions GB

ComStation^{CT}, desktop unit, order no. 77 0601 00
Terminal with two-way speech communication, incl. red call button, blue code blue/cardiac alarm button, green presence button (staff 1), yellow presence button (staff 2), 4 function keys as soft keys, microphone and loudspeaker. Designed for desktop installation at the nurse station. Preferably intended for call handling and for speaking to rooms with activated staff presence. Raising of calls or cardiac alarms to summon assisting staff is possible.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

1. Start configuration menu

- Press the top and bottom function keys simultaneously (5 sec.) until "Configuration" is shown in the display. Symbol meanings:
  ~ = Select menu item
  + = Increase shown value
  – = Decrease shown value
  X = Exit configuration menu (and store settings)

2. Entering of settings

Selecting the user language
- Press "~" until "Language" is shown.
- Press "+" or "–" until the desired language is shown
  D = German; GB = English; E = Spanish; F = French; NL = Dutch; I = Italian

Selecting the room type
- Press "~" until "Room type" is shown
- Press "+" or "–" until the room type "Staff room" is shown. (The "Staff room" setting causes, that emergency calls are signalled as normal calls)

Setting of room address (01 - 63)
- Press "~" until "Address" is shown.
- Press "+" or "–" until the desired address is shown.

Setting of RAN number (00 - 30) (Room Area Network)
RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) which are connected via RAN . (**No** pear push switch, **no** patient handset, **no** connection socket ComStation)
- Press "~" until "RAN number" is shown.
- Press "+" or "–" until the desired RAN figure is shown.

3. Functional test "Test RAN"

Test if room devices are ready to operate and if they are correctly connected to the RAN. Check the correct setting of the RAN number.
- Press "~" until "Test CCS/Test RAN" is shown.
- Test start: Press "–" in the menu "Test CCS/Test RAN".
- The LEDs of all connected room devices must flash. (Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection)
- Compare the number of connected room devices with the RAN number on the display [XX]. If the RAN number on the display is false, correct the setting after the RAN test as described above.
- End of test: Press "–" again.

4. Exit the configuration menu

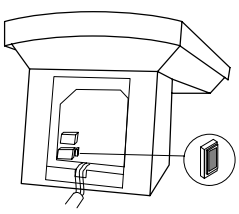
When all settings are performed and all tests are finished, exit the configuration menu. During this procedure all settings are stored.
- Press "X" (= bottom function key).

Note: If for a period of three minutes no function key is pressed, the system will leave the configuration menu and the settings are stored.

5. Apply the room address

Integrated in the ComStation^{CT} is a printed circuit board (PCB), which must have the same room address as the address set in the configuration menu. This address has to be manually applied.

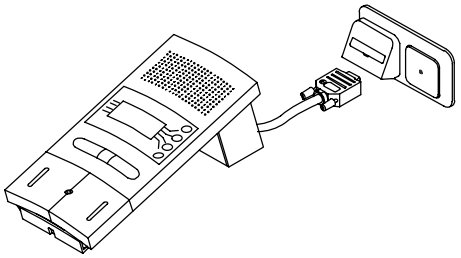
To do this, remove the cover from the rear side of the ComStation^{CT}.



1. Switch on staff presence at the ComStation^{CT}.
2. Press the address button on the integrated PCB once.
3. Switch off staff presence at the ComStation^{CT}.

The address set in the configuration menu is now also stored in the integrated PCB.

77 0601 00
ComStation^{CT}, Tischgerät
ComStation^{CT}, desktop unit



74 0452 50A
Steckvorrichtung ComStation
Connection socket ComStation

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TUNSTALL GmbH

CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		15.03.07	WENDKER
Gepr.			

ComStation PC

Order Nr.: / Best.Nr.: 77 0602 00

Drawing No.: / Zeichn.Nr.: 74 1 0061 4 9 2

Interfaces

70 0840 00	RAN interface normal call
70 0841 00	RAN interface code blue/cardiac alarm
70 0842 00	RAN interface telephone call
70 0860 00	RAN interface TV
70 0880 00	RAN interface with speech
77 0801 00	OSYlink-Door entry speaker
77 0802 00	OSYlink-Group lamp
77 0803 00	OSYlink-Universal
77 0804 00	OSYlink-Announcement
77 0805 00	OSYlink-ComTerminal

Installationsanleitung D

RAN-Schnittstelle Normalruf, Best.-Nr. 70 0840 00
Schnittstelle zur Verbindung von Rufgeräten mit dem Zimmerbus (RAN). Die Schnittstelle stellt einen Schalteingang für Normalruf und einen Ausgang als Finde- und Beruhigungslicht zur Verfügung. Über Codierschalter kann der Ruf mit einer Bettenkennung versehen werden.

RAN-Schnittstelle Normalruf mit automatischer Rufabstellung, Best.-Nr. 70 0840 01
wie 70 0840 00, jedoch mit automatischer Rufabstellung. Der Ruf wird automatisch abgestellt, wenn der Kontakt des angeschlossenen Rufgeräts wieder geöffnet wird.
Achtung: Die RAN-Schnittstelle, Bestell-Nr. 70 0840 01, funktioniert erst, wenn eine Bettennummer eingestellt wurde, siehe B.

RAN-Schnittstelle Alarmruf, Best.-Nr. 70 0841 00
Schnittstelle zur Verbindung von Rufgeräten mit dem Zimmerbus (RAN). Die Schnittstelle stellt einen Schalteingang für Alarmruf und einen Ausgang als Finde- und Beruhigungslicht zur Verfügung.

RAN-Schnittstelle Alarmruf mit automatischer Rufabstellung, Best.-Nr. 70 0841 01
wie 70 0841 00, jedoch mit automatischer Rufabstellung. Der Ruf wird automatisch abgestellt, wenn der Kontakt des angeschlossenen Rufgeräts wieder geöffnet wird.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Montage

Montage der RAN-Schnittstellen mit den mitgelieferten Halterungen auf eine 35 mm-Z-Schiene oder in eine handelsübliche Einbaudose.

A Anschluss

Schaltausgang
U_{out} = 24 V; $I_{out\ max.}$ = 10 mA

Findelichtfunktion
$I_{FL\ max.}$ = 0,5 mA

Externer Taster S1
min. Schaltstrom: 0,1 mA, 5 V DC
max. Leitungslänge an Punkt 4, 5, 6, 7 = 5 m

B Bettennummer einstellen (nur bei 70 0840 00, 70 0840 01)

An der RAN-Schnittstelle Normalruf mit automatischer Rufabstellung (70 0840 01) muss die entsprechende Bettennummer eingestellt werden. An der RAN-Schnittstelle Normalruf (70 0840 00) kann die entsprechende Bettennummer eingestellt werden.

Hierzu werden Codierschalter 1, 2 und 3 verwendet.

Achtung! Bei Bettennummer 6 im Zimmer kann kein Diagnostik-Ruf verwendet werden.

Hinweis: Wenn die Einstellung der Bettennummer geändert wurde, muss ein Reset für diese RAN-Schnittstelle durchgeführt werden, d.h. 24 Volt ausschalten und anschließend wieder einschalten.

Installation Instructions GB

RAN interface normal call, order no. 70 0840 00
Interface for connection of call devices to the room bus (RAN). The interface has a switching input for normal calls and an output for location and reassurance light. The bed identification can be set by coding switches.

RAN interface normal call with automatic call cancelling, order no. 70 0840 01
as 70 0840 00, but with automatic call cancelling. The call is cancelled, when the contact of the connected call device is opened again.
Attention: The RAN interface, order no. 70 0840 01, only works, after a bed number has been set, see B.

RAN interface code blue / cardiac alarm, order no. 70 0841 00
Interface for connection of call devices to the room bus (RAN). The interface has a switching input for codes blue / cardiac alarm and an output for location and reassurance light.

RAN interface code blue/cardiac alarm with automatic call cancelling, order no. 70 0841 01
as 70 0841 00, but with automatic call cancelling. The call is cancelled, when the contact of the connected call device is opened again.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Mounting

Mounting the RAN interface with the delivered mounts on a 35 mm Z rail or in a standard back box.

A Connection

Switch output
U_{out} = 24 V; $I_{out\ max.}$ = 10 mA

Location light function
$I_{LL\ max.}$ = 0.5 mA

External switch S1
min. switching current: 0.1 mA, 5 V DC
max. wiring length at point 4, 5, 6, 7 = 5 m

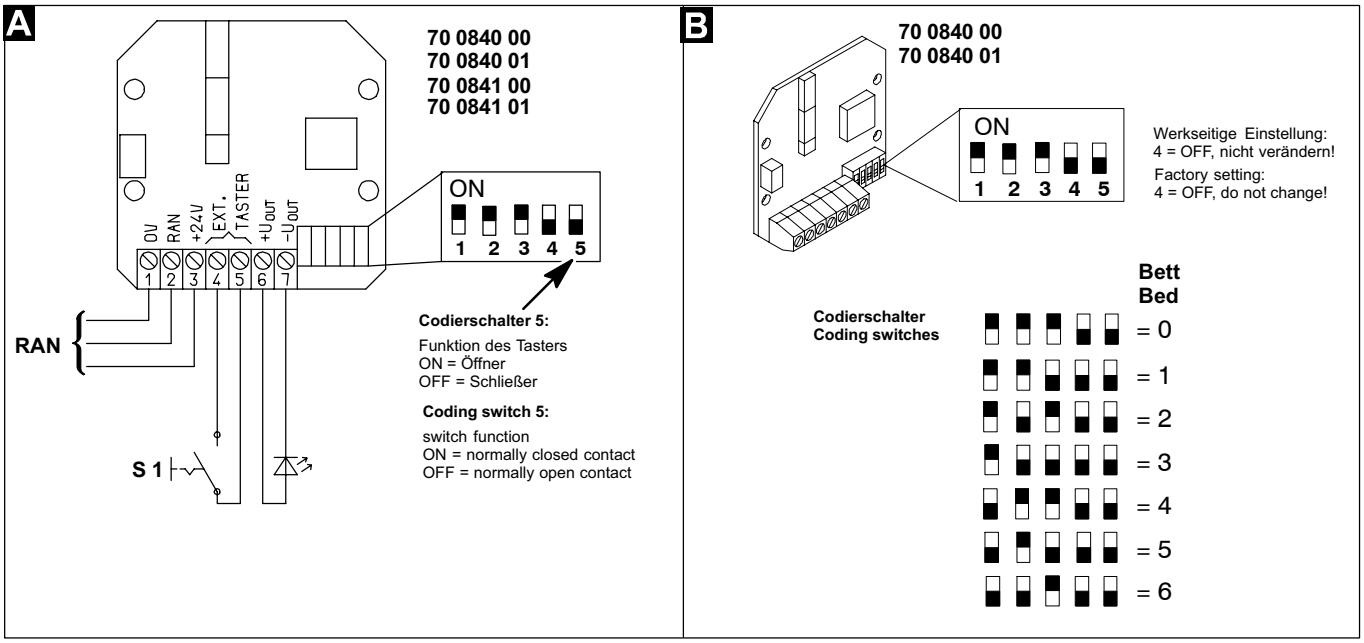
B Setting bed number (only for 70 0841 00, 70 0841 01)

At the RAN interface normal call with automatic call cancelling (70 0840 01) the corresponding bed number has to be set. At the RAN interface normal call (70 0840 00) the corresponding bed number can be set.

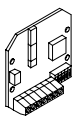
For this, use the code switches 1, 2 and 3.

Attention: Diagnostic call not possible with bed number 6 im Zimmer.

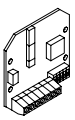
Note: After the bed number setting was changed, this RAN interface must be reset by switching off and on the 24 V power supply.



70 0840 0X
RAN-Schnittstelle Normalruf
RAN interface normal call



70 0841 0X
RAN-Schnittstelle Alarmruf
RAN interface code blue / cardiac alarm



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Installationsanleitung D

RAN-Schnittstelle Telefonruf, Best.-Nr. 70 0842 00

Schnittstelle zur Verbindung eines Telefonanschaltrelais (Bestell-Nr. 11 5300 00) oder eines Telefonkontaktes an den Zimmerbus (RAN).

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Montage

Montage der RAN-Schnittstellen mit den mitgelieferten Halterungen auf eine 35 mm-Z-Schiene oder in eine handelsübliche Einbaudose.

A Anschluss

Installation Instructions GB

RAN interface telephone call, order no. 70 0842 00

Interface for connection of a telephone interface relay (order no. 11 5300 00) to the room bus (RAN).

Note! The complete installation of the system is described in the technical manual.

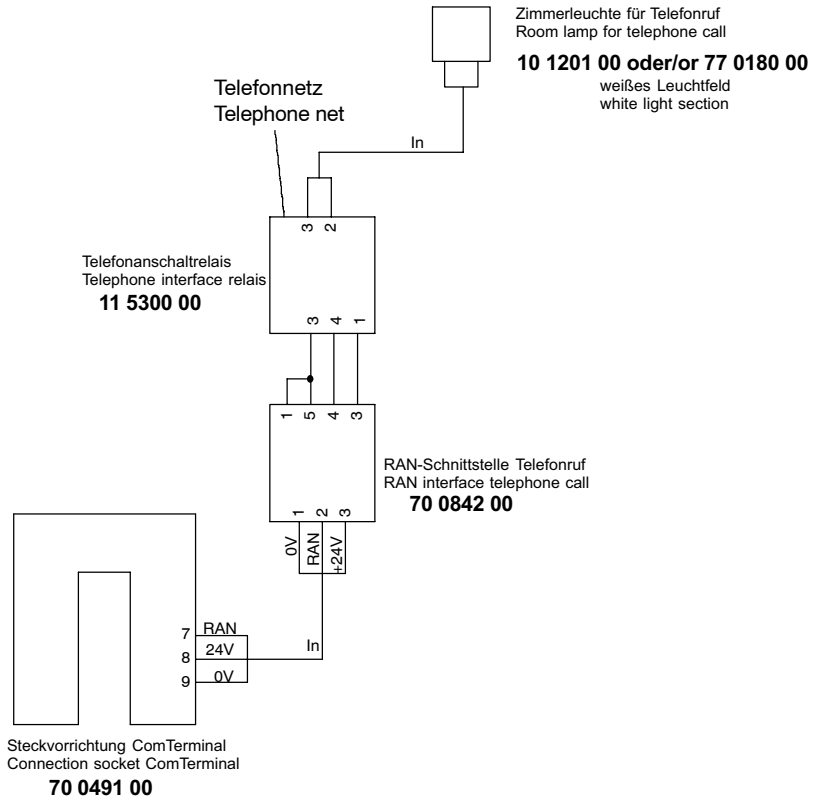
Attention! The printed circuit board includes electrostatically discharged endangered components. Avoid touching.

Mounting

Mounting the RAN interface with the delivered mounts on a 35 mm Z rail or in a standard back box.

A Connection

A



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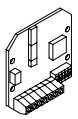
70 0842 00
RAN-Schnittstelle Telefonruf
RAN interface telephone call



CE

Installationsanleitung D

RAN-Schnittstelle TV, Best.-Nr. 70 0860 00

Schnittstelle zur Verbindung des Zimmerbus (RAN) und der Fernsehsteuerung.
In Verbindung mit PBK Hand und Steckvorrichtung Kombi (70 0424 00) / Steckvorrichtung Kombi Kanal (70 0434 00) steht die Möglichkeit der Bedienung des Patientenfernsehens zur Verfügung.
Die Schnittstelle überträgt alle erforderlichen Signale zur Bedienung für die Fernsehsteuerung.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Einbau in medizinische Versorgungseinheit oder in eine Einbaudose.

Bettennummer einstellen

Die Einstellung der Bettennummer und der anderen Optionen erfolgt durch Jumper auf der jeweiligen Steckvorrichtung (70 0434 00).

Hinweis: Bei Verwendung der Bettennummer 6 kann kein Diagnostik-Ruf verwendet werden.

B Anschluss

Installation Instructions GB

RAN interface TV, order no. 70 0860 00

Interface for connection of TV control to the room bus (RAN).
Intended installation in the electric supply unit or a back box.
With the patient handset plugged into the connection socket combi (70 0424 00) or connection socket comb bedhead unit (70 0434 00), the patient is able to control the TV.
The interface transmits all of required signals to operate the TV control.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Installation in the medical supply unit or a back box.

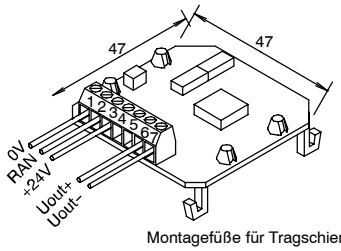
Setting bed number

Setting of bed numbers and other options are effected by placing jumpers in the appropriate positions at connection socket (70 0434 00).

Note: Diagnostic call not possible with bed number 6.

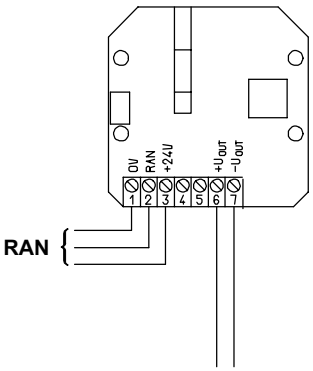
B Connection

A



Montagefüße für Tragschiene 35 mm
Mounts for mounting on 35 mm supporting rail

B



Schaltausgang

U_{out} = 24V
$I_{out\ max.}$ = 10mA

zur TV-Steuereinheit
to TV control unit

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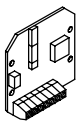
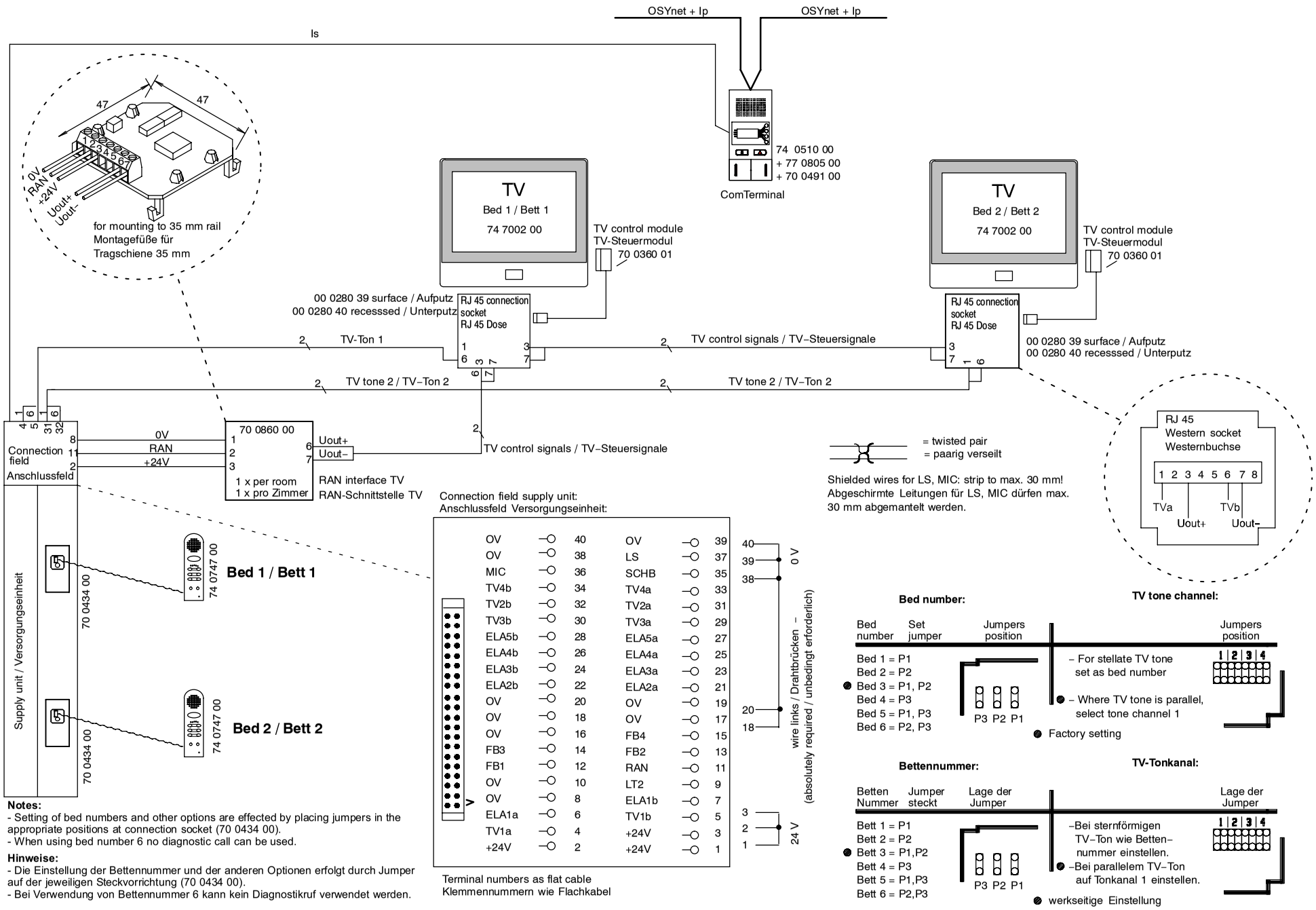
70 0860 00
RAN-Schnittstelle TV
RAN interface TV



Anschlussplan (Beispiel) D

Connection Diagram (example) GB



Notes:
- Setting of bed numbers and other options are effected by placing jumpers in the appropriate positions at connection socket (70 0434 00).
- When using bed number 6 no diagnostic call can be used.

Hinweise:
- Die Einstellung der Bettennummer und der anderen Optionen erfolgt durch Jumper auf der jeweiligen Steckvorrichtung (70 0434 00).
- Bei Verwendung von Bettennummer 6 kann kein Diagnostikruf verwendet werden.

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Installationsanleitung D

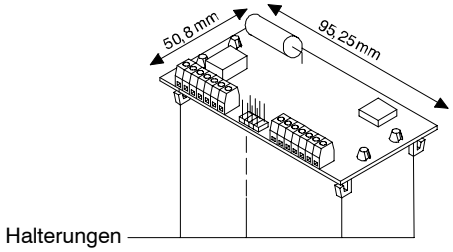
RAN-Schnittstelle mit Sprechen, Best.-Nr. 70 0880 00
Schnittstelle zum Anschluss eines Patiententerminals an den Zimmerbus (RAN).

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

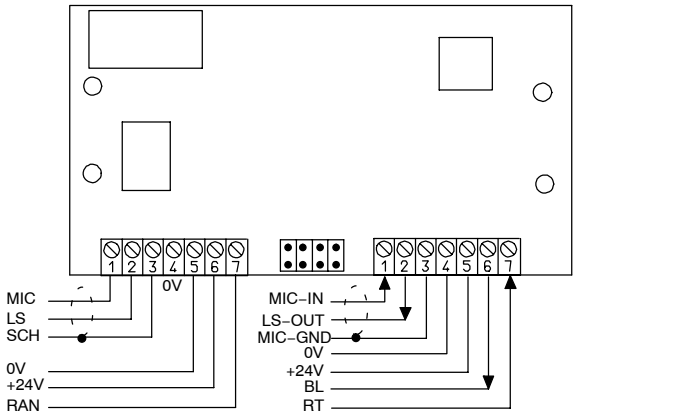
Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Die RAN-Schnittstelle wird in eine zweiteilige Einbaudose eingebaut oder mittels der zwei Halterungen auf einer 35 mm-Z-Schiene befestigt.



B Anschlüsse

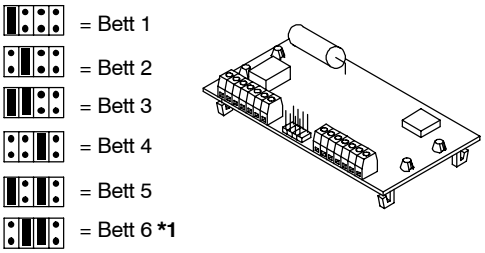


Zimmerbus RAN

Interne Verbindung zur Steckvorrichtung z.B. MediSET GS
(Details siehe Installationsunterlagen des Herstellers)

C Bettennummer einstellen

Über die Jumper auf der Leiterplatte kann die entsprechende Bettennummer eingestellt werden. Hierzu werden Codierschalter 1, 2 und 3 verwendet.



***1** Achtung: Bei Bettennummer 6 kann kein Diagnostikruf verwendet werden.

Installation Instructions GB

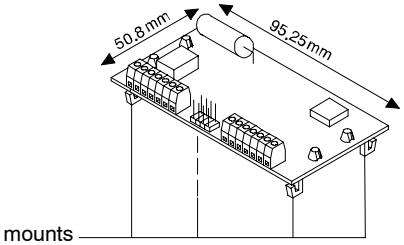
RAN interface with speech, order no. 70 0880 00
Interface for connecting a patient terminal to the room bus (RAN).

Note! The complete installation of the system is described in the technical manual.

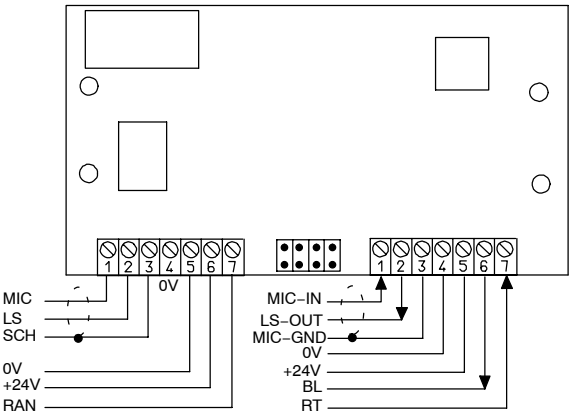
Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

The RAN interface is mounted into a 2-gang back box or is fixed on a 35 mm Z rail by the two mounts.



B Connections

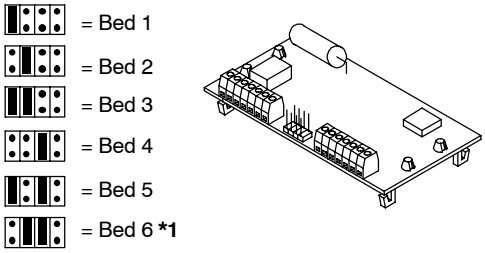


Room bus RAN

Internal connection to connection socket e.g. MediSET GS
(For details refer to manufacturer's instructions)

C Setting the bed number

Use the jumpers on the board to set the appropriate bed number. Use code switches 1, 2, 3.



***1** Attention: Diagnostic call not possible with bed number 6.

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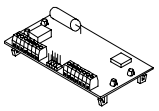
CE

70 0880 00
RAN-Schnittstelle mit Sprechen
RAN interface with speech



Installationsanleitung D

OSYlink-Türsprechstelle, Best.-Nr. 77 0801 00
Schnittstelle zum Anschluss einer Türsprechstelle, Bestell-Nr. 77 0350 00, an den Gruppenbus (OSYnet).

- 2-Draht-Anschluss zur Türsprechstelle (inkl. Daten und Sprache)
- Anschluss für Türöffner-Transformator 12 V AC
- Eingang zur lokalen Ruflöschung in Verbindung mit einem separaten Taster (Schließer nach 24 V)
- Max. Stromaufnahme: 380 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Best.-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Door Entry Speaker, order no. 77 0801 00
Interface for connecting a door entry speaker, order no. 77 0350 00, to the group bus (OSYnet).

- 2-wire-connection to the door entry speaker (including data and speech)
- Connection for door opener transformer 12 V AC
- Input for local call cancelling in combination with a separate switch (N/O contact to 24 V)
- Max. current consumption: 380 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition, coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 53)

After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.

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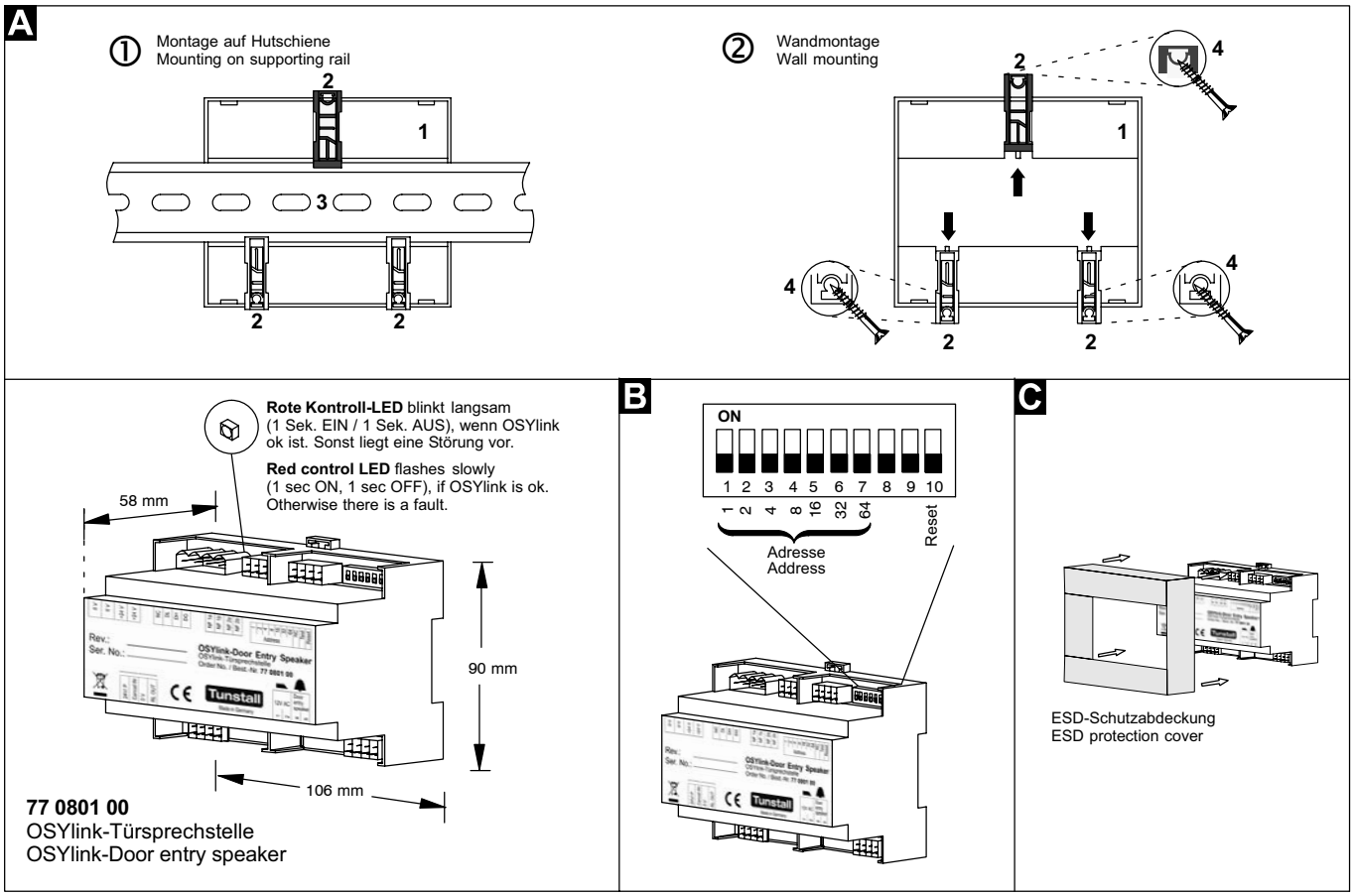

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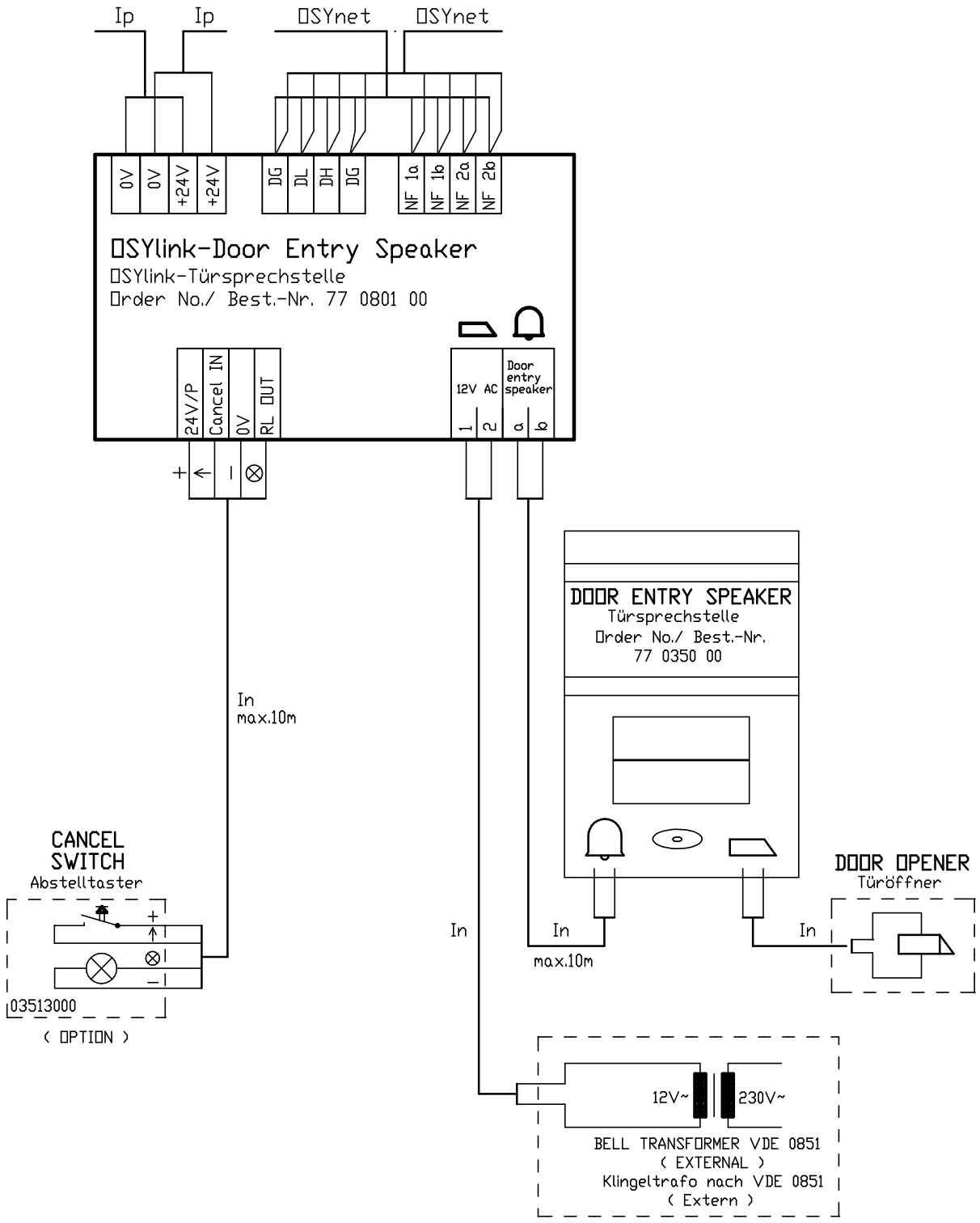

In=IY(ST)Y2x2x0,8
Ip=NYM 2x2,5sqmm/qmm

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CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		06.02.07	WENDKER
Gepr.		06.02.07	FÄCKING

SYlink-Door Entry Speaker
SYlink Türsprechstelle

Order No.: / Best.Nr.:	Drawing No.: / Zeichn.Nr.:
77 0801 00	74 1 0055 4 9 2

Installationsanleitung D

OSYlink-Gruppenleuchte, Best.-Nr. 77 0802 00
Schnittstelle zum Anschluss von Gruppenleuchten an den Gruppenbus (OSYnet). Einsetzbar als Sammel- oder Richtungsanzeige. Raumzuordnung und Bildung von Gruppen möglich.

- 4 x 2 potentialfreie Ausgänge zur Anschaltung von 4 Gruppenleuchten mit je 2 Leuchtfeldern
- Stromversorgung wählbar (Jumper) intern aus der Rufanlage oder extern
- Anzeige nach DIN VDE 0834, zentral konfigurierbar
- Zentrale, flexible Konfiguration der Blinkfolgen und Zuordnung der Teilnehmeradressen
- Max. Stromaufnahme: 26 mA + 60 mA je Ausgang

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Group lamp, order no. 77 0802 00
Interface for connecting group lamps to the group bus (OSYnet). Usable as collective or direction display. Room allocation and group forming possible.

- 4 x 2 potential-free outputs for connecting 4 group lamps, with two light sections each
- Power supply selectable (jumper) internal from the call system or external
- Display compliant with DIN VDE 0834, centrally configurable
- Central, flexible configuration of flash-signal sequences and allocation of user addresses
- Max. current consumption: 26 mA + 60 mA per output

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition, coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

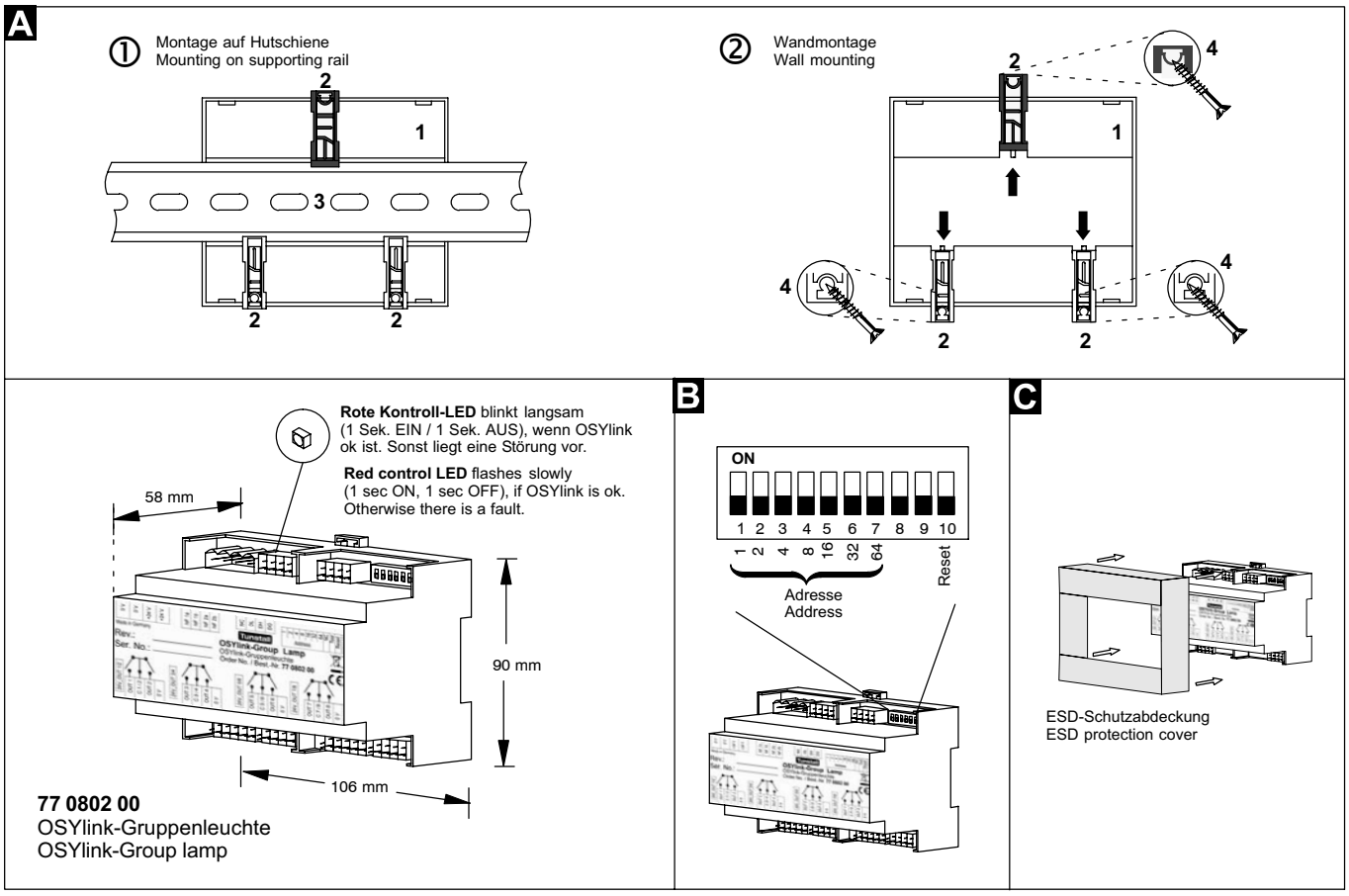
Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 276 53)

After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.


A
① Montage auf Hutschiene
Mounting on supporting rail
② Wandmontage
Wall mounting
Rote Kontroll-LED blinkt langsam (1 Sek. EIN / 1 Sek. AUS), wenn OSYlink ok ist. Sonst liegt eine Störung vor.
Red control LED flashes slowly (1 sec ON, 1 sec OFF), if OSYlink is ok. Otherwise there is a fault.
58 mm
90 mm
106 mm
77 0802 00
OSYlink-Gruppenleuchte
OSYlink-Group lamp
B
ON
1 2 3 4 5 6 7 8 9 10
1 2 4 8 16 32 64
Reset
Adresse
Address
C
ESD-Schutzabdeckung
ESD protection cover

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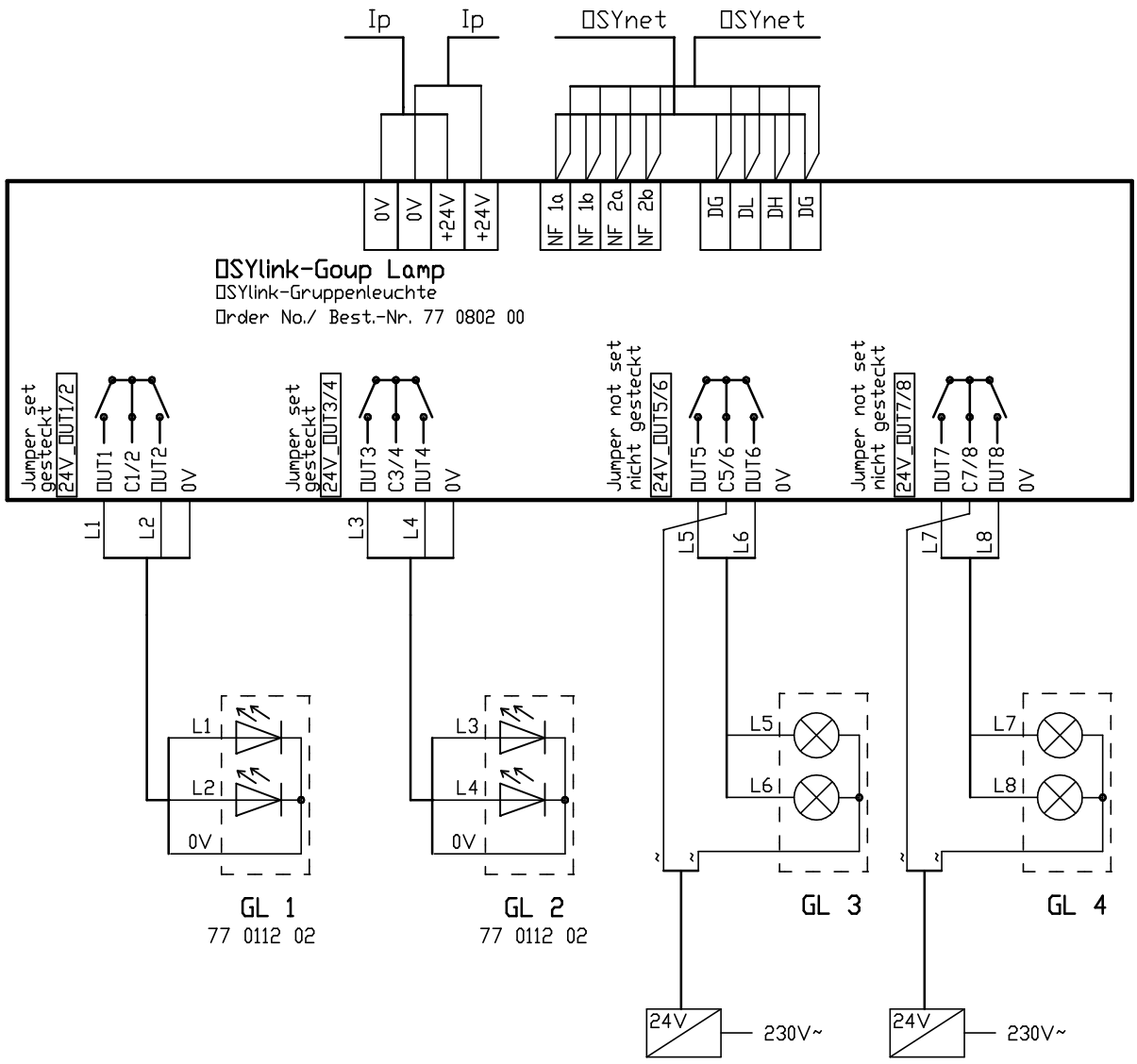

Internal power supply
Interne Stromversorgung

24V DC/max.60mA / per output pro Ausgang

Jumper OUT1/2 + OUT3/4 set
Jumper OUT1/2 + OUT3/4 gesteckt

External power supply
Externe Stromversorgung

24V AC or/oder DC / max.1A

Jumper OUT5/6 + OUT7/8 not set
Jumper OUT5/6 + OUT7/8 nicht gesteckt

The rooms have to be assigned to the outputs in the System Organizer Software.

Die Zuordnung der Räume zu den Ausgängen wird in der Software System Organizer vorgenommen.

GL = Grouplamp/Gruppenleuchte
L = Lamp/Leuchte

Ip=NYM 2x2,5qmm/sqnm

TUNSTALL GmbH

CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		15.03.07	WENDKER
Gepr.		15.03.07	Föcking

SYlink-Group Lamp
SYlink Gruppenleuchte

Order No.: / Best.Nr.: 77 0802 00

Drawing No.: / Zeichn.Nr.: 74 1 0057 4 9 2

Installationsanleitung D

OSYlink-Universal, Best.-Nr. 77 0803 00

Schnittstelle zur Anschaltung von Fremdanlagen und/oder technischen Einrichtungen an den Gruppenbus (OSYnet).

- Je 1 überwachter Schalteingang für Ruf (IN 1), Notruf (IN 2), Alarmruf (IN 3)
- Je 1 elektronischer Ausgang für Ruf (OUT 1), Notruf (OUT 2), Alarmruf (OUT 3)
- 1 überwachter Schalteingang, konfigurierbar (IN 4)
- 1 elektronischer Ausgang, konfigurierbar (OUT 4)
- 1 Schalteingang, konfigurierbar (IN 8)
  1 elektronischer Ausgang, konfigurierbar, mit Findelicht-Funktion (OUT 6) (Funktional dem Schalteingang zugeordnet)
- 3 Schalteingänge, konfigurierbar (IN 5 - 7)
- 1 elektronischer Ausgang, konfigurierbar (OUT 5)
- 2 Relaisausgänge, konfigurierbar (Wechselkontakt, Spannungsquelle intern oder extern wählbar per Jumper) (OUT 7 - 8)
- Zentrale, flexible Konfiguration der Ein- und Ausgänge
- Max. Stromaufnahme: 900 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 54)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Universal, order no. 77 0803 00

Interface for connecting external systems and/or technical installations to the group bus (OSYnet).

- 1 monitored input per call category: call (IN 1), emergency call (IN 2), code blue/cardiac alarm (IN 3)
- 1 solid state output per call category: call (OUT 1), emergency call (OUT 2), code blue/cardiac alarm (OUT 3)
- 1 monitored input, configurable (IN 4)
- 1 solid state output, configurable (OUT 4)
- 1 input, configurable (IN 8)
  1 solid state output, configurable, with location light function (OUT 6) (function-related to digital input)
- 3 inputs, configurable (IN 5 - 7)
- 1 solid state output, configurable (OUT 5)
- 2 relay outputs, configurable (change-over contact, voltage source internal or external selectable by jumper) (OUT 7 - 8)
- Central, flexible configuration of the inputs and outputs
- Max. current consumption: 900 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 54)

After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.

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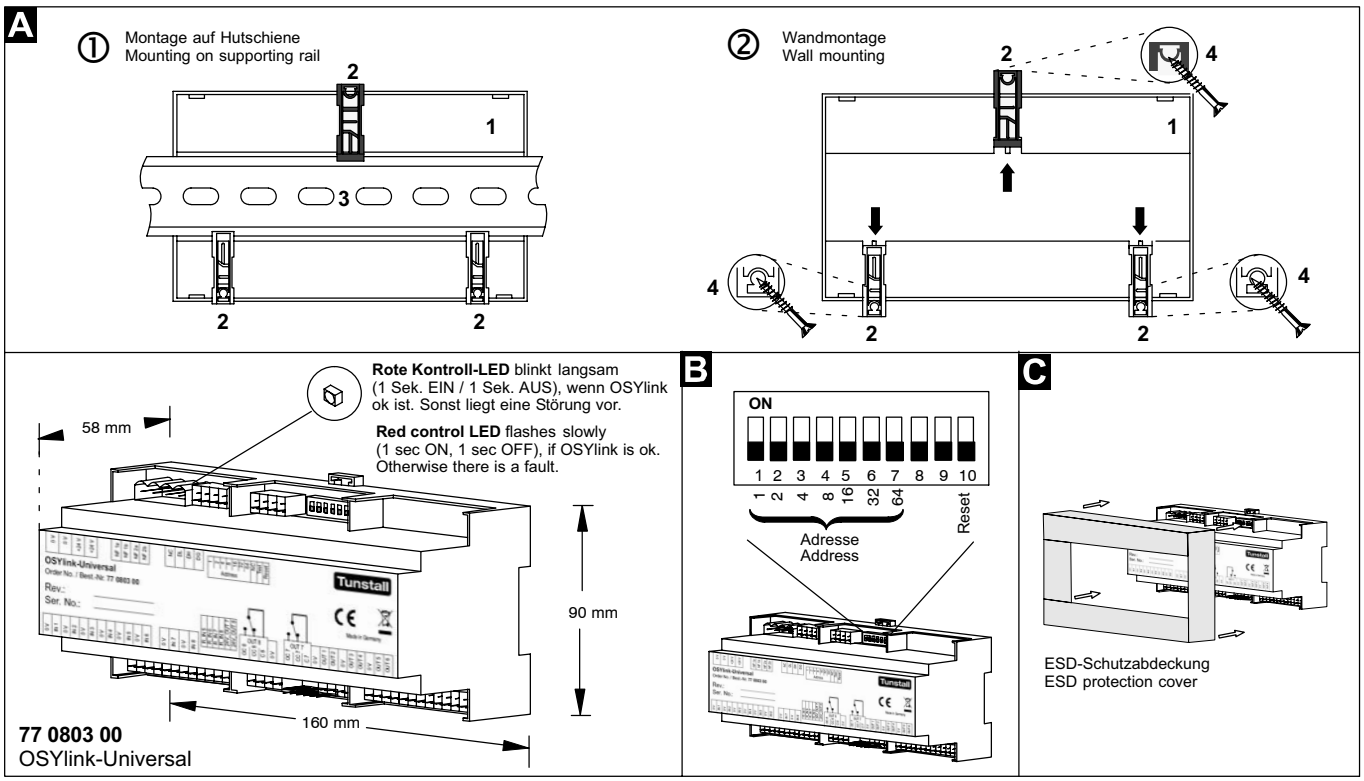

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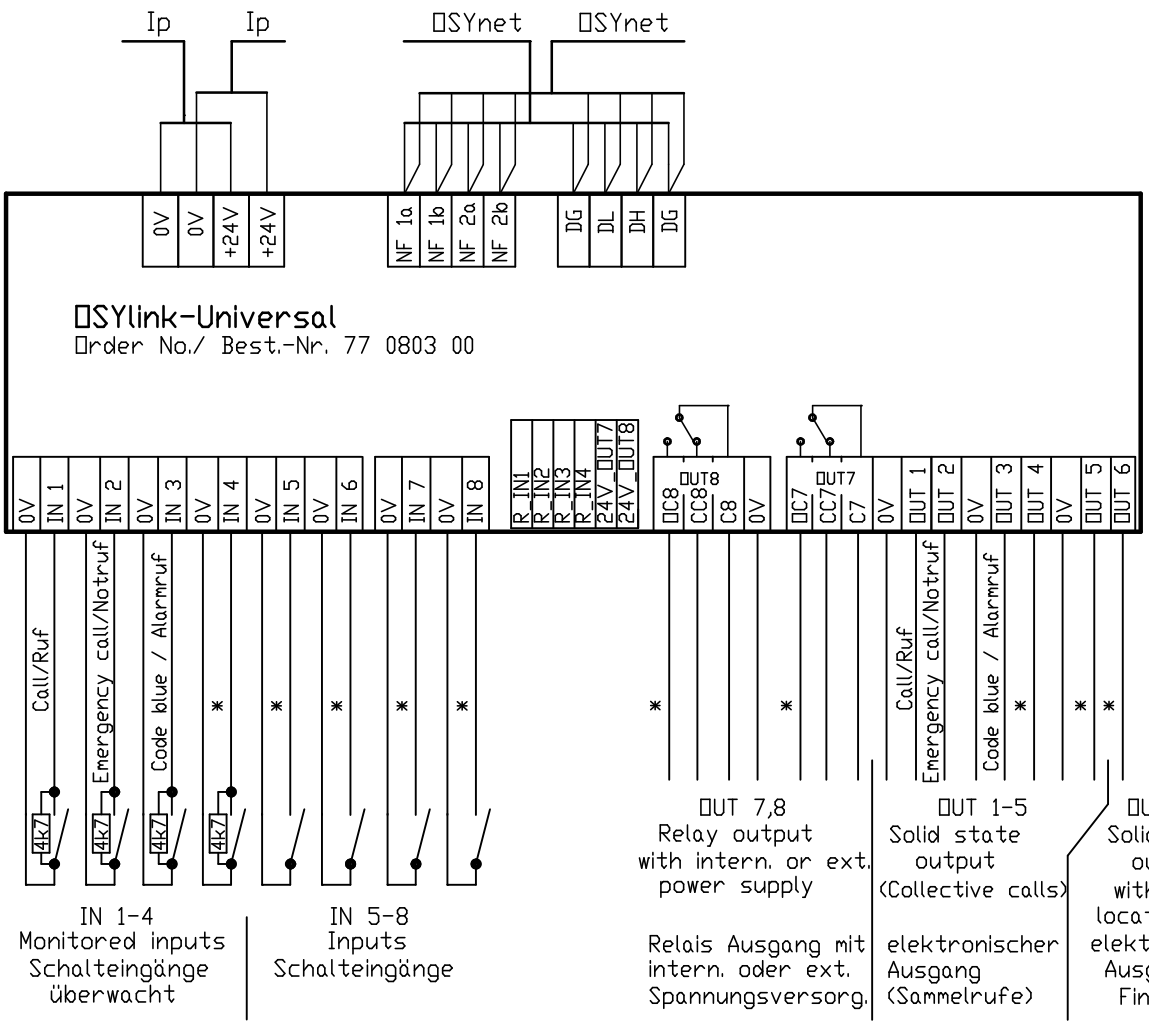


* Configurable inputs 4,5,6,7,8
Configuration of configurable inputs and outputs as well as changing the configuration of pre defined inputs and outputs in System Organizer Software.

* frei konfigurierbare Eingänge 4,5,6,7,8
Einstellung der Konfiguration für konfigurierbare Eingänge und Ausgänge sowie Änderung der Konfiguration der vordefinierten Eingänge und Ausgänge in der Software System Organizer.

- External power supply: 24V AC or DC/max.1A
- Externe Spannungsversorgung: 24V AC oder DC/max.1A

Ip=NYM 2x2,5qmm/sqnm

TUNSTALL GmbH — CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		23.03.07	WENDKER
Gepr.		23.03.07	WENNER

SYlink-Universal

Order Nr.: / Best.Nr.: 77 0803 00

Drawing No.: / Zeichn.Nr.: 74 1 0056 4 9 2

Installationsanleitung D

OSYlink-Durchsage, Best.-Nr. 77 0804 00

Schnittstelle zum Anschluss von Durchsagelautsprechern, Bestell-Nr. 05 0024 00, an den Gruppenbus (OSYnet). Anschaltung als Einzelgerät oder in Gruppen.

- 1 Audio-Ausgang zur Ansteuerung von aktiven Lautsprechern (max. 5 Lautsprecher)
- 1 potentialfreier Schaltausgang zur Steuerung der Zuschaltkennung
- Max. Stromaufnahme: 60 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Announcement, order no. 77 0804 00

Interface for connecting announcement loudspeakers, order no. 05 0024 00, to the group bus (OSYnet). Connection of single devices or groups.

- 1 audio output for driving active loudspeakers (max. 5 loudspeakers)
- 1 potential-free digital output for control of signalling the activity of the announcement system
- Max. current consumption: 60 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 53)

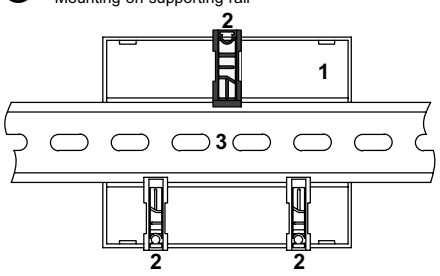
After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

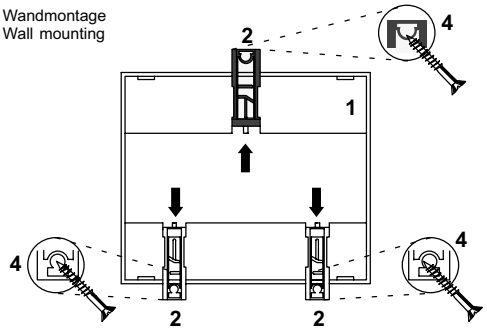
Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.

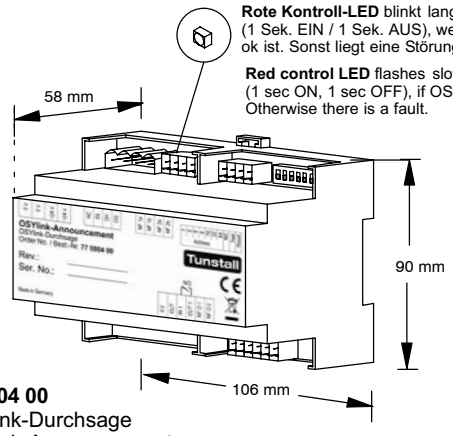
A

① Montage auf Hutschiene
Mounting on supporting rail



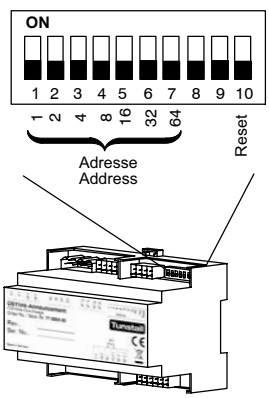
② Wandmontage
Wall mounting



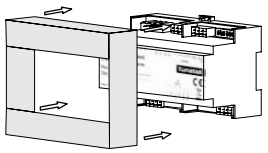

Rote Kontroll-LED blinkt langsam
(1 Sek. EIN / 1 Sek. AUS), wenn OSYlink
ok ist. Sonst liegt eine Störung vor.
Red control LED flashes slowly
(1 sec ON, 1 sec OFF), if OSYlink is ok.
Otherwise there is a fault.
58 mm
90 mm
106 mm

77 0804 00
OSYlink-Durchsage
OSYlink-Announcement

B



C



ESD-Schutzabdeckung
ESD protection cover

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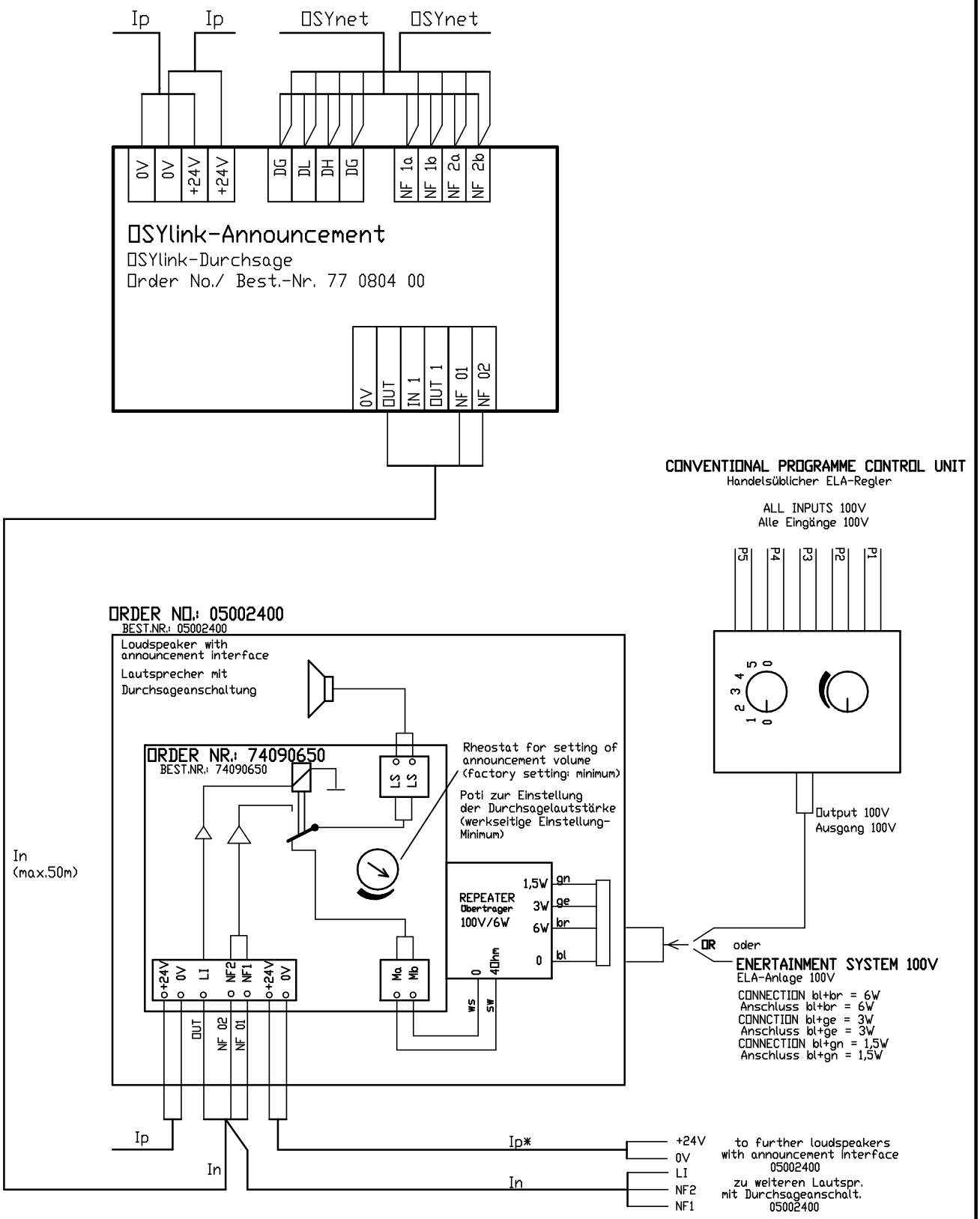
Ohne unsere Genehmigung darf diese Zchg. weder kopiert, noch vervielfaeltigt, noch dritten Personen oder Konkurrenzfirmen zugaenglich gemacht werden. 823ff.B.G.B.



In=IY(ST)Y2x2x0,8
Ip=NYM 2x2,5sqmm/qmm

gn = green
ge = yellow
br = brown
bl = blue
ws = white
bl = black

* In case of a voltage less than 20V, an additional cable (c=2x2x0,8) has to be laid.
Max. 5 announcement loudspeakers per SY link - Announcement

* Wird diese Spannung 20V unterschritten, muß eine zusätzliche Leitung (c=2x2x0,8) für die Spannungsversorgung gelegt werden.
Max.5 Durchsagelautsprecher pro SY link - Durchsage

TUNSTALL GmbH

CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		06.02.07	WENDKER
Gepr.		06.02.07	Föcking

SYlink-Announcement
SYlink-Durchsage

Order No.: / Best.Nr.: 77 0804 00

Drawing No. / Zeichn.Nr.: 05 1 0206 4 9 2

Installationsanleitung D

OSYlink-ComTerminal, Best.-Nr. 77 0805 00
Schnittstellen-Leiterplatte zum Anschluss eines ComTerminals, Best.-Nr. 74 0510 00, oder eines NewLine ComTerminals, Best.-Nr. 70 xxxx xx, an den Gruppenbus (OSYnet).

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage an ComTerminal, Best.-Nr. 74 0510 00

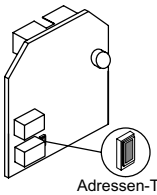
1. Terminal-Frontteil **5** von der Wand abnehmen, wie in der Verpackungsbeilage zum ComTerminal beschrieben.
2. Flachkabel **4** von der Steckvorrichtung **1** abziehen.
3. Die vier Befestigungsschrauben der Terminal-Rückwand **3** ein Stück (nicht vollständig) herausdrehen und Terminal-Rückwand **3** abnehmen.
4. Flachkabel **4** durch die Terminal-Rückwand **3** führen und in die zugehörige Buchse auf der Leiterplatte **2** stecken.
5. Leiterplatte **2** in die zugehörige Buchse der Steckvorrichtung **1** stecken.
6. Terminal-Rückwand **3** wieder aufsetzen und festschrauben.
7. Terminal-Frontteil **5** oben auf die Terminal-Rückwand **3** aufsetzen, so dass ein Scharnier entsteht. Anschließend das Terminal-Frontteil auf die Terminal-Rückwand herunterdrücken, bis die Rastnase einrastet.
8. Zur Sicherung kann eine Schraube (3 x 13 mm für Kunststoff) unten in die Bohrung eingeschraubt werden.

B Montage an NewLine ComTerminal, Best.-Nr. 70 xxxx xx

1. ComTerminal **5** von der Wand abnehmen, wie in der Verpackungsbeilage zum ComTerminal beschrieben.
2. Flachkabel **4** von der Steckvorrichtung **1** abziehen.
3. Die vier Befestigungsschrauben des Montageblechs **3** ein Stück (nicht vollständig) herausdrehen und Montageblech **3** abnehmen.
4. Flachkabel **4** durch das Montageblech **3** führen und in die zugehörige Buchse auf der Leiterplatte **2** stecken.
5. Leiterplatte **2** in die zugehörige Buchse der Steckvorrichtung **1** stecken.
6. Montageblech **3** wieder aufsetzen und festschrauben.
7. ComTerminal **5** von oben auf die Halterungen des Montageblechs **3** schieben.

C Zimmer-Adresse übernehmen

Im angeschlossenen ComTerminal muss eine Zimmer-Adresse eingestellt werden. Dieselbe Adresse muss auch in der Leiterplatte OSYlink-ComTerminal gespeichert werden, d.h. die im ComTerminal eingestellte Adresse muss in die Leiterplatte OSYlink-ComTerminal übernommen werden:



Adressen-Taste (Minitaster)

1. Zimmer-Adresse im ComTerminal muss bereits eingestellt sein (siehe Verpackungsbeilage zum ComTerminal).
2. Anwesenheitstaste am ComTerminal einschalten.
3. Adressen-Taste an der Leiterplatte OSYlink-ComTerminal einmal drücken.
4. Anwesenheitstaste am ComTerminal ausschalten.

Die im ComTerminal eingestellte Adresse ist nun auch in der Leiterplatte OSYlink-ComTerminal gespeichert.

Installation Instructions GB

OSYlink-ComTerminal, order no. 77 0805 00
Interface printed circuit board for connecting a ComTerminal, order no. 74 0510 00, or a NewLine ComTerminal, order no. 70 xxxx xx, to the group bus (OSYnet).

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting to ComTerminal, order no. 74 0510 00

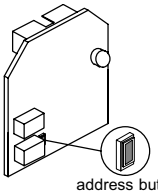
1. Demount the front panel **5** from the wall as described in the product leaflet for the ComTerminal.
2. Unplug the flat cable **4** from the connection socket **1**.
3. Loosen the four fixing screws of the pattress and demount the pattress.
4. Insert the flat cable **4** through the pattress **3** and plug it into the appropriate socket on the printed circuit board **2**.
5. Plug the printed circuit board **2** into the appropriate socket on the connection socket **1**.
6. Place the pattress **3** on the connection socket and tighten the fixing screws.
7. Place front panel **5** into the top of the pattress **3** creating a hinge. Now press the front panel downward onto the pattress until the catch engages.
8. For improved security a screw (3 x 13 mm for plastics) can be fitted into the hole in the base of the ComTerminal.

B Mounting to NewLine ComTerminal, order no. 70 xxxx xx

1. Demount the ComTerminal **5** from the wall as described in the product leaflet for the ComTerminal.
2. Unplug the flat cable **4** from the connection socket **1**.
3. Loosen the four fixing screws of the mounting frame **3** and demount the mounting frame **3**.
4. Insert the flat cable **4** through the mounting frame **3** and plug it into the appropriate socket on the printed circuit board **2**.
5. Plug the printed circuit board **2** into the appropriate socket on the connection socket **1**.
6. Place the mounting frame **3** on the wall and tighten the screws.
7. Slide the ComTerminal **5** down onto the mounting frame **3**.

C Apply the room address

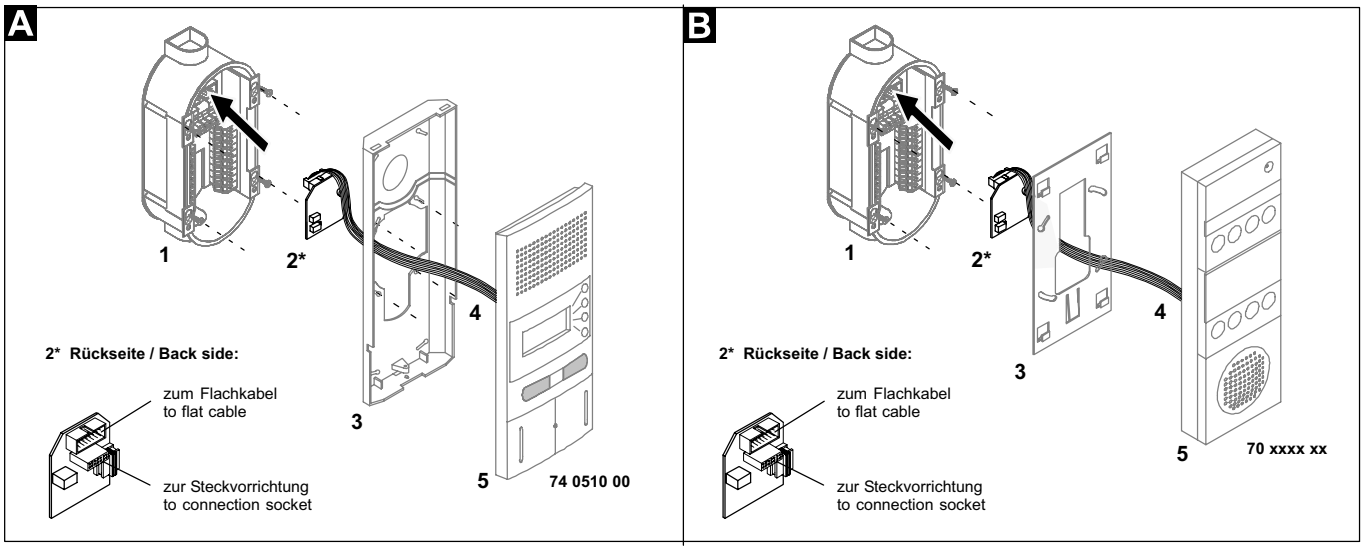
In the connected ComTerminal a room address has to be set. The same address has to be stored in the printed circuit board OSYlink-ComTerminal, i.e. the address set in the ComTerminal has to be applied to the printed circuit board OSYlink-ComTerminal:



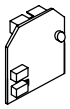
address button (mini switch)

1. Room address must have already been set in the ComTerminal (refer to the product leaflet for the ComTerminal).
2. Switch on staff presence button at the ComTerminal.
3. Press the address button on the printed circuit board OSYlink-ComTerminal once.
4. Switch off staff presence button at the ComTerminal.

The address set in the ComTerminal is now also stored in the printed circuit board OSYlink-ComTerminal.



77 0805 00
OSYlink-ComTerminal



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Accessories

70 0790 00	Sound detector
70 0812 00	Diagnostic connection cable
77 0901 00	Smoke detector

Installationsanleitung D

Schallwächter, Best.-Nr. 70 0790 00
Der Schallwächter dient zur akustischen Kontrolle von Räumen. Automatische Auslösung von Rufen durch laute Geräusche.

Lautstärke und Zeitdauer der Geräusche, die einen Ruf auslösen sollen, können mit den Reglern "Empfindlichkeit" **1** und "Verzögerung" **2** eingestellt werden.

Hinweis: Normale Gesprächslautstärke führt nicht zur Rufauslösung.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Anschlussmöglichkeiten

Der Schallwächter kann an unterschiedliche Steckvorrichtungen und Patienten-Bedienkombinationen der Firma Tunstall GmbH angeschlossen werden und dient zur akustischen Kontrolle von Räumen.

B Bedienungsanleitung

Einschalten
Durch einfaches Stecken des Mini-DIN-Steckers in die Steckbuchse für Rufgeräte wird das Gerät eingeschaltet und ist sofort betriebsbereit.

Einstellungen
1 Empfindlichkeit (Ansprechempfindlichkeit):
Dieser Regler dient zur Einstellung der Lautstärke, ab der das Gerät einen Ruf auslöst. Schwellwertskala von 0 bis 9.
Einstellung 9 = höchste Empfindlichkeit: geringe Geräusche lösen einen Ruf aus.

2 Verzögerung:
Dieser Regler dient zur Einstellung der zeitlichen Mindestdauer eines Geräusches, die zur Auslösung eines Rufes führt.
Zeitskala: 0 bis 9 (Verzögerungszeit 0,5 - 6 s)

Technische Daten

Farbe
hellgrau

Material
Kunststoff ABS

Stromversorgung
24 VDC / 16 mA Ruhestrom

Installation Instructions GB

Sound detector, order no. 70 0790 00
Sound detector for acoustic monitoring of rooms. Automatic call activation in case of any noises.

Sensitivity and time delay can be adjusted. So it can be adjusted which volume and noise duration shall activate a call.

Note: Normal conversation will not activate a call.

Note! The complete installation of the system is described in the technical manual.

A Connection possibilities

The sound detector can be connected to different connection sockets and patient bedside combinations from the company Tunstall GmbH.

B User instructions

To switch on
The device will be automatically switched on by plugging into the corresponding socket for call devices. It is immediately operational.

Adjustments:
1 Sensitivity (sensitivity of speaking):
This regulator is used for adjusting the sensitivity of sound loudness level. A call will be activated above this level. Scale of threshold value 0 to 9.
Adjustment 9 = highest sensitivity: a slight noise activates a call.

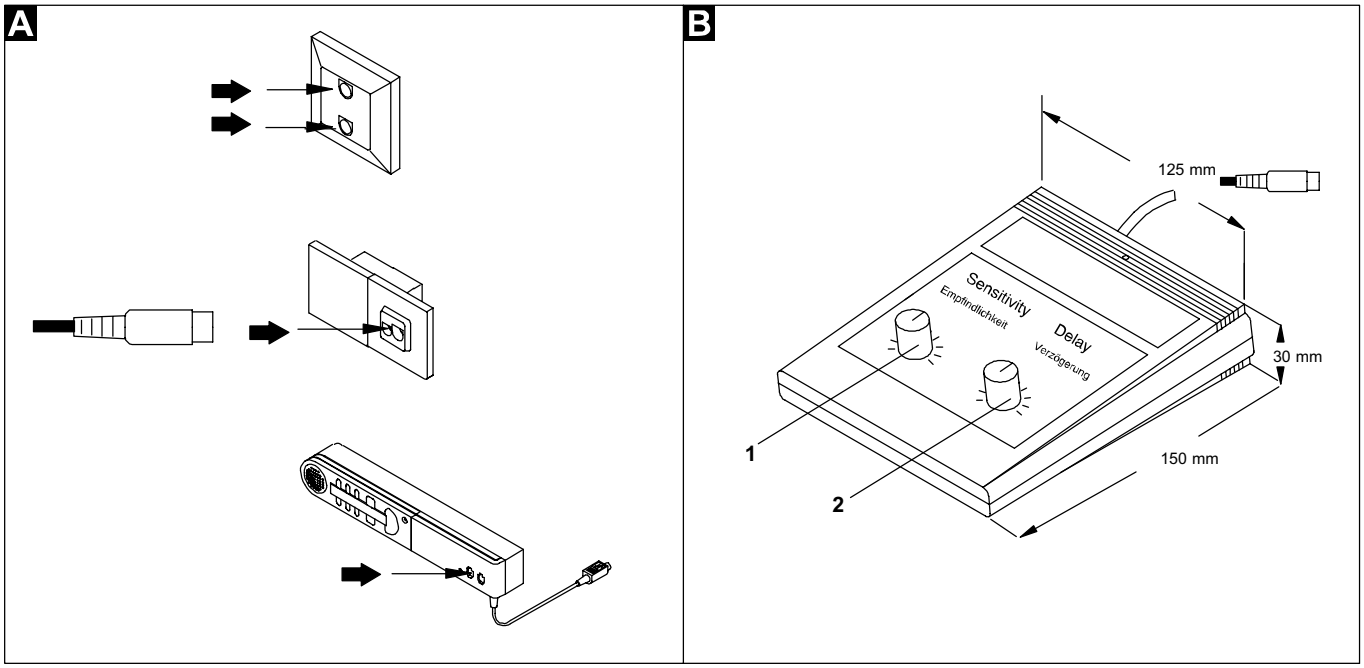
2 Delay:
This regulator is used for adjusting the minimum duration of sound, beyond which leads to call activation.
Time scale: 0 to 9 (time of delay 0,5 to 6 s).

Technical data

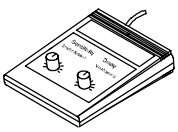
Colour
light grey

Material
Plastic ABS

Power supply
24 VDC / 16 mA standby current



70 0790 00
Schallwächter
Sound detector



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Installationsanleitung D

Verbindungsleitung für Diagnostikgeräte, Best.-Nr. 70 0812 00
Verbindungsleitung zum Anschluss von elektromedizinischen Geräten an Steckvorrichtungen, Best.-Nr. 70 xxxx xx.

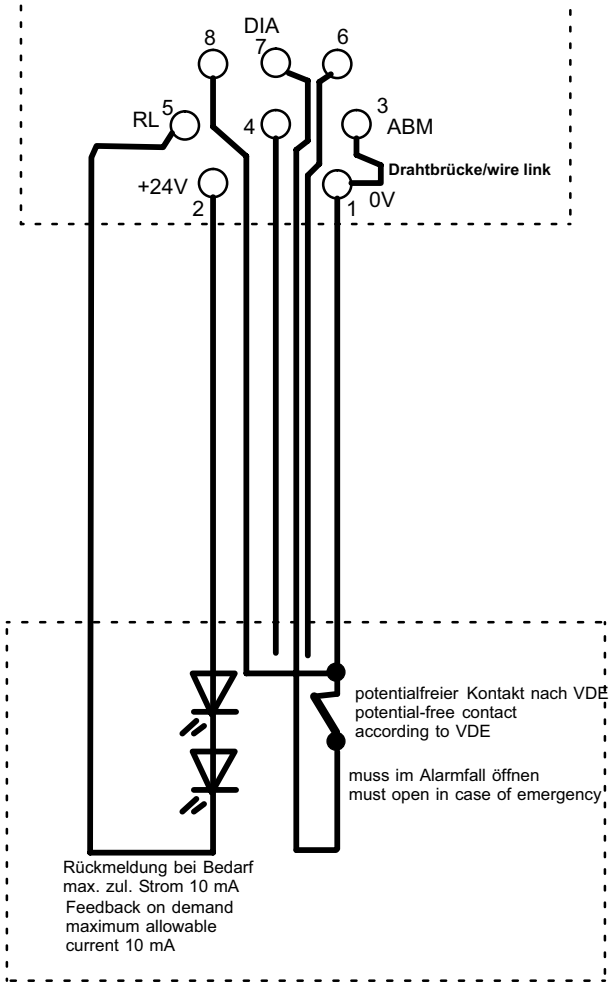
Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Installation Instructions GB

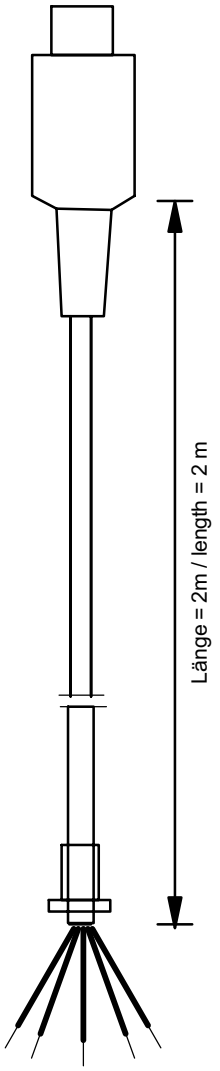
Diagnostik connection cable, order no. 70 0812 00
Cable for connection of electromedical devices to connection sockets, order no. 70 xxxx xx.

Note! The complete installation of the system is described in the technical manual.

Anschluss an Steckvorrichtung 70 xxxx xx
Connection to connection socket 70 xxxx xx



Elektromedizinisches Gerät
Electromedical Device

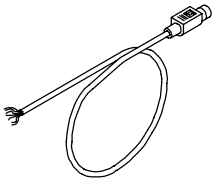


Freie Drahtenden (30 mm), verzinnt
Free wire ends (30 mm), tin-plated

Adernfarben:	**Wire colours:**
1 = blau	1 = blue
2 = rot	2 = red
3 =	3 =
4 = weiß	4 = white
5 = orange	5 = orange
6 = gelb	6 = yellow
7 = schwarz	7 = black
8 = grün	8 = green

Achtung! Nicht benutzte Drahtenden müssen isoliert werden.
Attention! Non used wire ends have to be insulated.

70 0812 00
Verbindungsleitung für Diagnostikgeräte
Diagnostic connection cable



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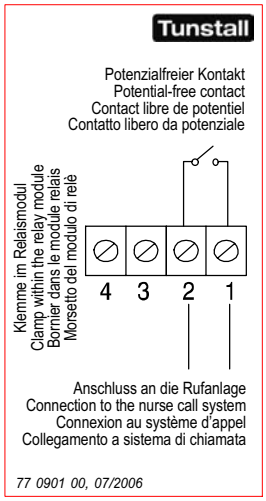
Anschlussplan für Rauchmelder, Best.-Nr.: 77 0901 00
Connection plan for smoke detector, order no.: 77 0901 00



System devices

77 2000 00	OSY-ControlCenter
77 2100 00	OSYnet-SafetyController

Installationsanleitung D

OSY-ControlCenter, Best.-Nr. 77 2000 00

Das OSY-ControlCenter stellt alle Systemfunktionen der Flamenco-Rufanlage zur Verfügung. Es organisiert die Datenverteilung und den gesamten Sprechverkehr zwischen den einzelnen Teilnehmern. Das OSY-ControlCenter ist die zentrale Systemschnittstelle zur Ein- und Ausgabe von Daten, Sprechverbindungen und Systemmeldungen, jedoch auch die Schaltstelle für Fernzugriffe und Softwareupdates. Das OSY-ControlCenter ist modular aufgebaut und wird individuell entsprechend dem benötigten Leistungsumfang zusammengestellt. Die Anzahl der jeweils erforderlichen internen Komponenten ergibt sich aus der Gesamtanzahl der anzuschließenden Teilnehmer und der Anzahl der internen und externen Sprechverbindungen. Zusätzliche Schnittstellen zum Datenaustausch, z.B. KIS, Facility Management und Anbindungen an Telefonanlagen können integriert werden. Die Konfiguration des OSY-ControlCenters erfolgt werkseitig.

- Versorgungsspannung OSY-ControlCenter: 24 V DC
- Versorgungsspannung Netzwerk-Switch: 230 V AC
- Max. Stromaufnahme OSY-ControlCenter: 2,3 A

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

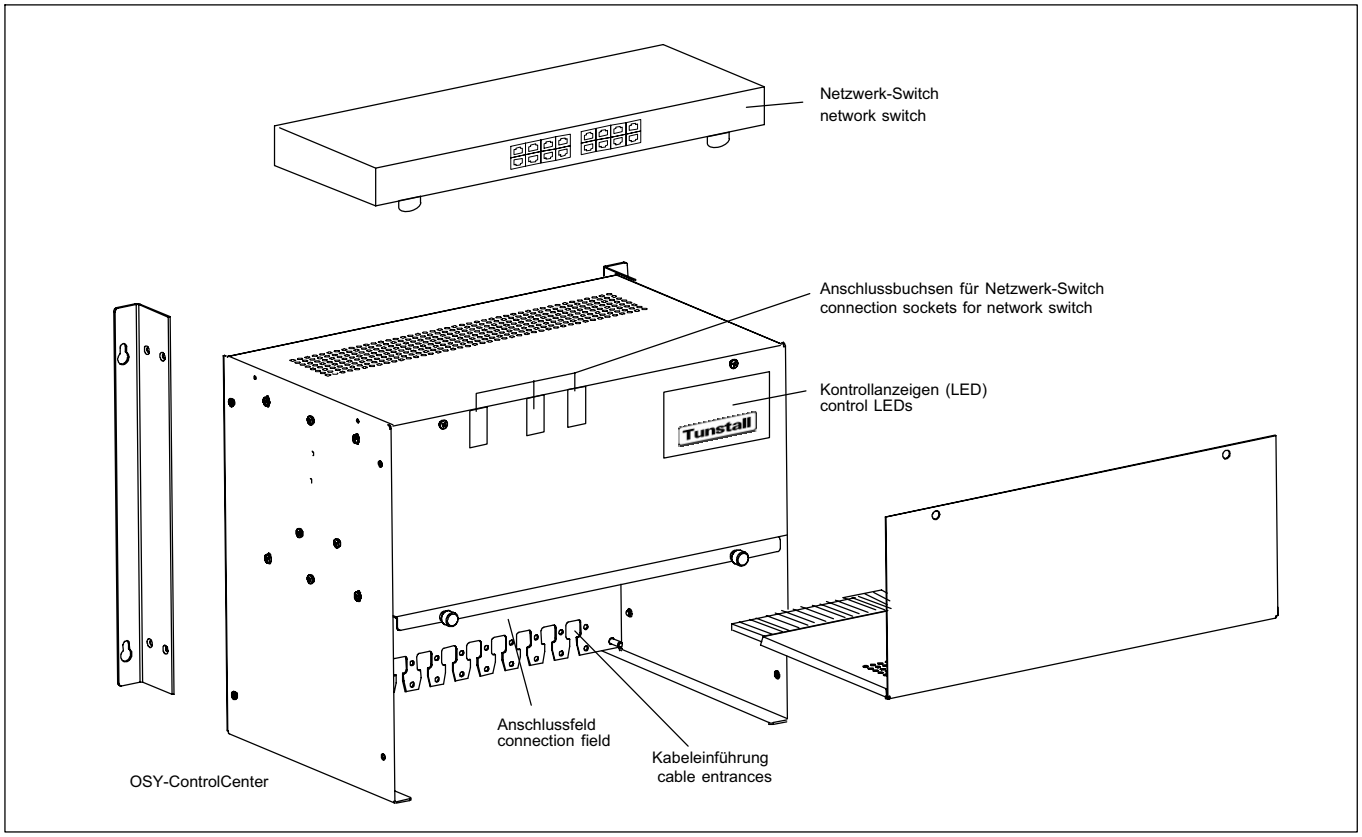
Installation Instructions GB

OSY-ControlCenter, order no. 77 2000 00

The OSY-ControlCenter provides all system functions for the Flamenco nurse call system. It organises the data distribution and the whole speech traffic between the single users. Furthermore the OSY-ControlCenter represents the central system interface for incoming and outgoing data, speech connections and system messages as well as the switching point for remote accesses and software updates. The OSY-ControlCenter is modular constructed and is individually assembled according to the required performance. The number of required internal components results from the total number of users to be connected and the number of internal and external speech connections. Additional interfaces for data exchange, e.g. for HIS, facility management and connections to telephone systems can be integrated. The OSY-ControlCenter is factory configured.

- Supply voltage for OSY-ControlCenter: 24 V DC
- Supply voltage for network switch: 230 V AC
- Max. current consumption OSY-ControlCenter: 2.3 A

Note! The complete installation of the system is described in the technical manual.

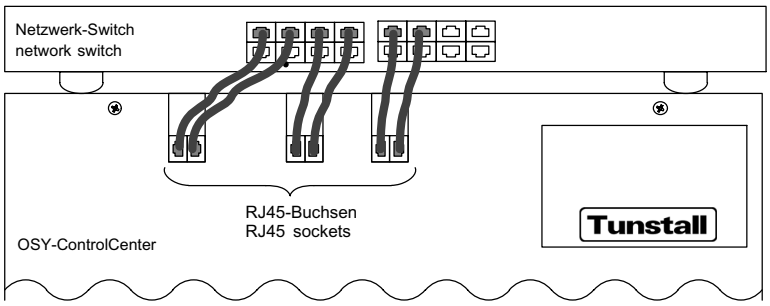


Netzwerk-Switch anschließen

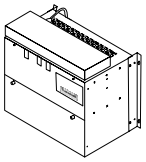
Je nach Ausstattung des OSY-ControlCenters, weist dieses bis zu 6 RJ45-Buchsen auf. Jede dieser Buchsen muss mit einer beliebigen RJ45-Buchse im Netzwerk-Switch verbunden werden. Es empfiehlt sich allerdings die folgende übersichtliche Anordnung:

Connection of network switch

Depending on its components the OSY-ControlCenter may include a maximum of 6 RJ45 sockets. Each socket has to be connected to an arbitrary RJ45 socket in the network switch. But the following clear arrangement is recommended:



77 2000 00
OSY-ControlCenter



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Montage D

Anforderungen an den Installationsort

- Bedingt zugänglicher technischer Betriebsraum
- Trockener Raum (Max. Luftfeuchtigkeit 75% bei ca. 18 ºC)
- Umgebungstemperatur 0º bis 40 ºC
- Das OSY-ControlCenter muss jederzeit gut zugänglich sein (Revisionsgang 60 cm breit).
- Freiraum für die Kabeleinführung muss berücksichtigt werden.

Belüftung

Die Wärmeabfuhr darf nicht behindert sein. Für eine ausreichende Luftzirkulation über und unter dem OSY-ControlCenter muss deshalb gesorgt werden. Der Abstand über und unter dem OSY-ControlCenter zu anderen Geräten oder zu Wänden muss mindestens 50 mm (im Montageschrank 3 HE) betragen. Die Lüftungsdurchlässe dürfen unter keinen Umständen abgedeckt sein. Beim Einbau in Schaltschränke muss gegebenenfalls durch Zwangslüftung die Verlustwärme abgeführt werden.

Mounting GB

Installation location requirements

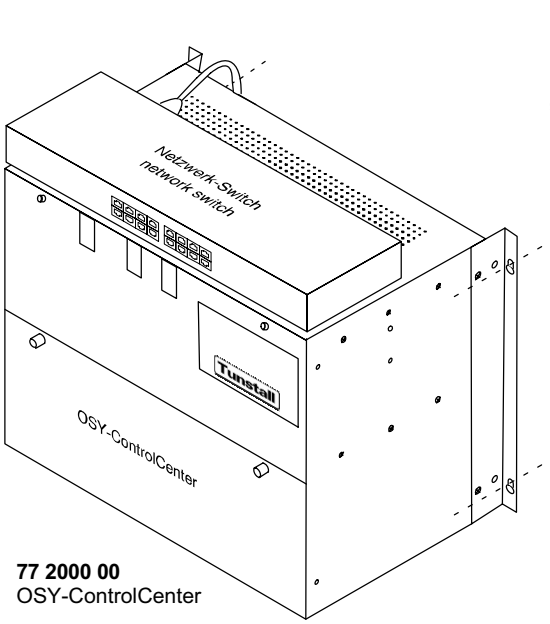
- Limited access location for technical equipment
- Dry location (max. relative humidity 75% at approx. 18 ºC)
- Ambient temperatures between 0º and 40 ºC
- The OSY-ControlCenter shall be readily accessible (access aisle 60 cm wide).
- Consider sufficient free space for cable entries.

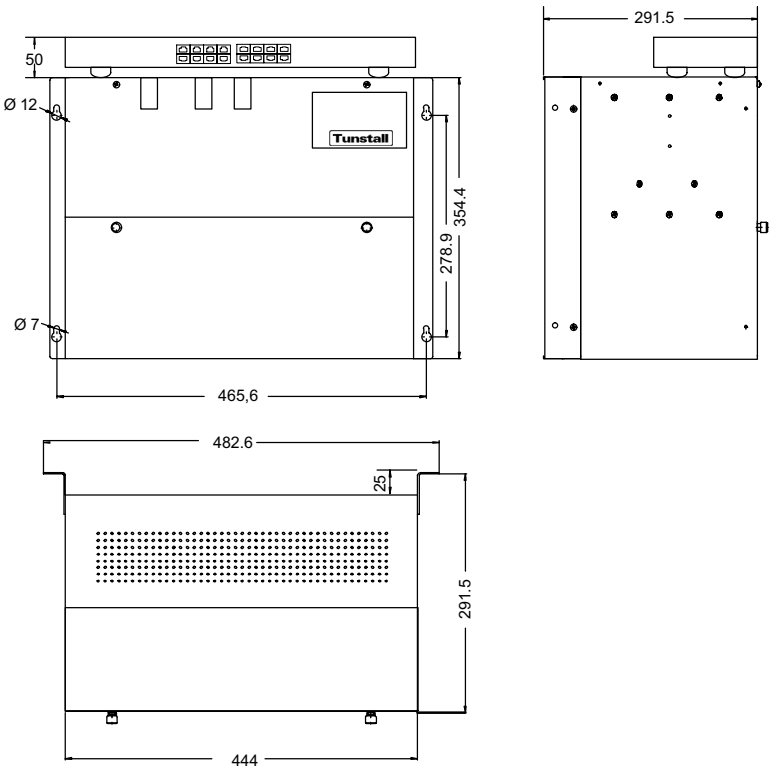
Ventilation

The heat transfer must not be blocked. The selected location must ensure sufficient air circulation above and below the OSY-ControlCenter. Therefore, check for minimum distance of 50 mm (3 U in a rack) to walls, ceiling and other equipment. The venting ports must not be covered up. Where the OSY-ControlCenter is installed in a 19-inch rack, forced-air ventilation may be required.

A

Wandmontage / Wall mounting



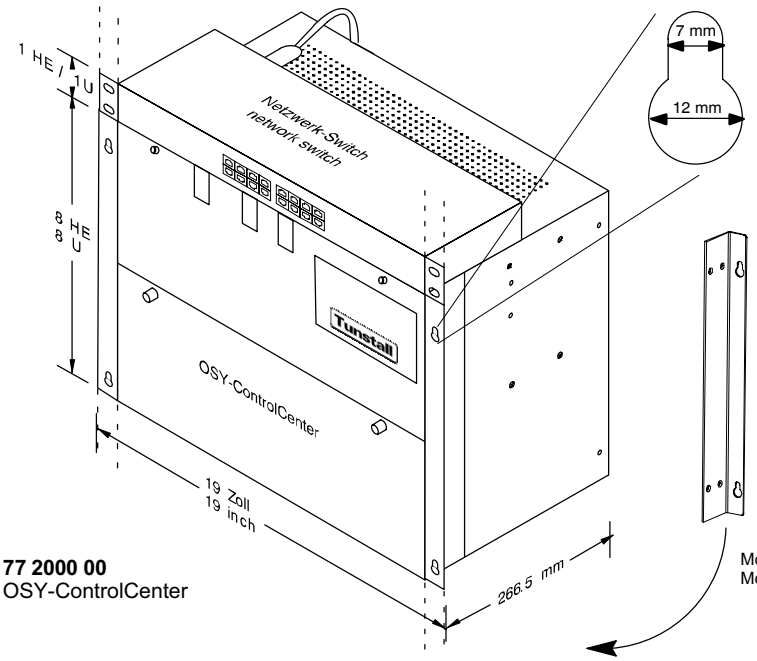


77 2000 00
OSY-ControlCenter

Gewicht ohne Kabel ca. 17 kg
weight without cables approx. 17 kg

B

Einbau in 19 Zoll Montageschrank / Mounting in 19-inch rack



77 2000 00
OSY-ControlCenter

Montagewinkel nach vorne umsetzen.
Move mounting brackets to the front.

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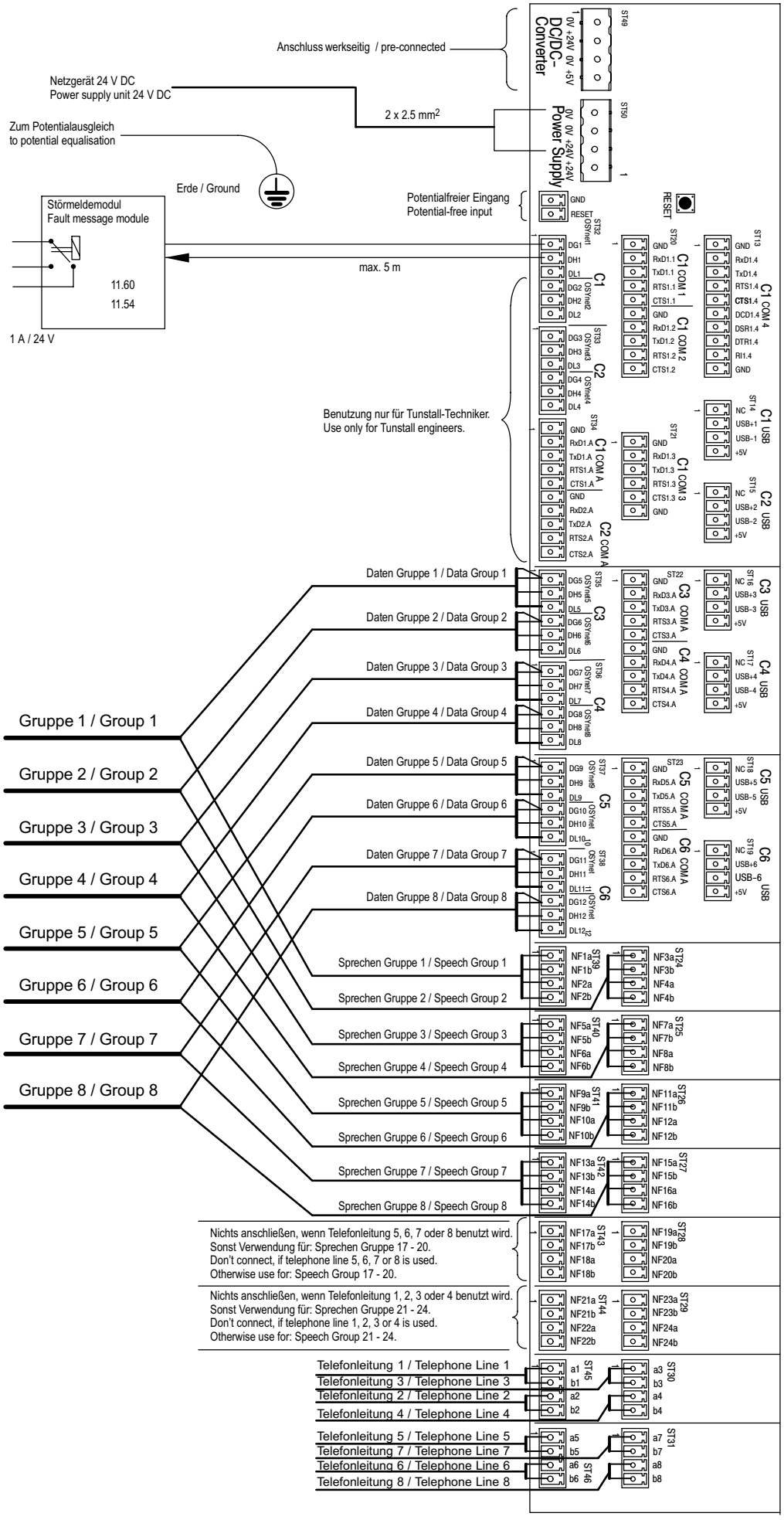
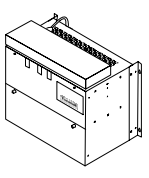
Anschlüsse D


Anschluss werkseitig / pre-connected
Netzgerät 24 V DC
Power supply unit 24 V DC
2 x 2.5 mm²
Zum Potentialausgleich
to potential equalisation
Erde / Ground
Störmeldemodul
Fault message module
11.60
11.54
1 A / 24 V
max. 5 m
Potentialfreier Eingang
Potential-free input
Benutzung nur für Tunstall-Techniker.
Use only for Tunstall engineers.
DC/DC-Converter
Power Supply
RESET
C1 COM 1
C1 COM 2
C1 COM 3
C1 COM 4
C1 COM A
C2 COM A
C3 COM A
C4 COM A
C5 COM A
C6 COM A
C1 USB
C2 USB
C3 USB
C4 USB
C5 USB
C6 USB
Daten Gruppe 1 / Data Group 1
Daten Gruppe 2 / Data Group 2
Daten Gruppe 3 / Data Group 3
Daten Gruppe 4 / Data Group 4
Daten Gruppe 5 / Data Group 5
Daten Gruppe 6 / Data Group 6
Daten Gruppe 7 / Data Group 7
Daten Gruppe 8 / Data Group 8
Gruppe 1 / Group 1
Gruppe 2 / Group 2
Gruppe 3 / Group 3
Gruppe 4 / Group 4
Gruppe 5 / Group 5
Gruppe 6 / Group 6
Gruppe 7 / Group 7
Gruppe 8 / Group 8
Sprechen Gruppe 1 / Speech Group 1
Sprechen Gruppe 2 / Speech Group 2
Sprechen Gruppe 3 / Speech Group 3
Sprechen Gruppe 4 / Speech Group 4
Sprechen Gruppe 5 / Speech Group 5
Sprechen Gruppe 6 / Speech Group 6
Sprechen Gruppe 7 / Speech Group 7
Sprechen Gruppe 8 / Speech Group 8
Nichts anschließen, wenn Telefonleitung 5, 6, 7 oder 8 benutzt wird.
Sonst Verwendung für: Sprechen Gruppe 17 - 20.
Don't connect, if telephone line 5, 6, 7 or 8 is used.
Otherwise use for: Speech Group 17 - 20.
Nichts anschließen, wenn Telefonleitung 1, 2, 3 oder 4 benutzt wird.
Sonst Verwendung für: Sprechen Gruppe 21 - 24.
Don't connect, if telephone line 1, 2, 3 or 4 is used.
Otherwise use for: Speech Group 21 - 24.
Telefonleitung 1 / Telephone Line 1
Telefonleitung 3 / Telephone Line 3
Telefonleitung 2 / Telephone Line 2
Telefonleitung 4 / Telephone Line 4
Telefonleitung 5 / Telephone Line 5
Telefonleitung 7 / Telephone Line 7
Telefonleitung 6 / Telephone Line 6
Telefonleitung 8 / Telephone Line 8

- Prüfen Sie alle Leitungen auf Durchgang, Kurzschluss- und Erdschlussfreiheit.
- Wenn die Datenleitungen korrekt angeschlossen sind, beträgt die Spannung zwischen DH und DG sowie die Spannung zwischen DL und DG ca. 2,5 V.
- **Achtung!** Bei dem folgende Plan handelt es sich um einen Standardanschlussplan. Beachten Sie die Abweichungen in Ihrem projektspezifischen Anschlussplan.

Connections GB

- Check all cables for continuity, short circuits and ground faults.
- When the data cables are correctly connected, the values are: voltage between DH and DG and voltage between DL and DG approx. 2.5 V.
- Attention! The following plan is a standard connection plan. Please follow the deviations in your project specific connection plan.



77 2000 00
OSY-ControlCenter

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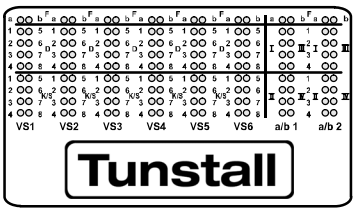
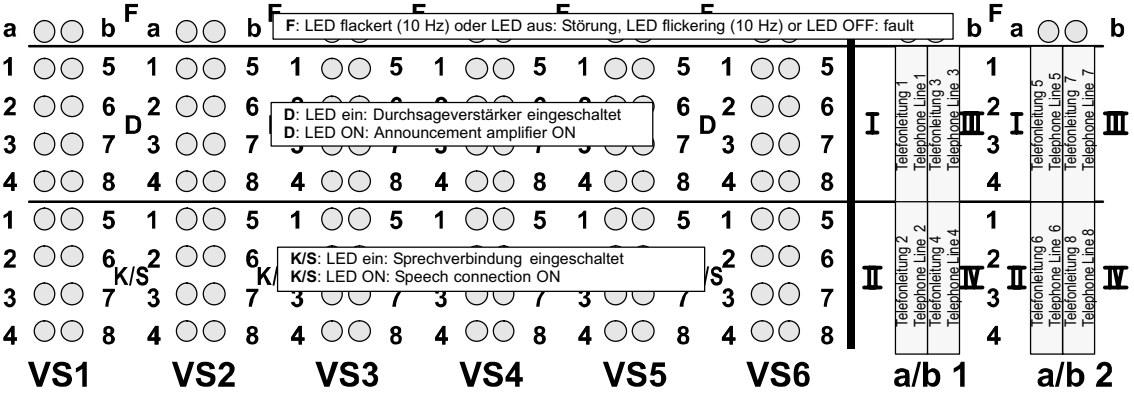
Kontrollanzeigen (LED) D

Die Kontrollanzeigen dienen Tunstall-Technikern zur differenzierten Analyse von Störungen.

Control LEDs GB

The control LEDs help Tunstall engineers to analyze faults.





Eine detailliertere Auswertung der Leuchtanzeigen ist nur durch Tunstall-Techniker möglich.
A more detailed interpretation of the control LEDs is possible for Tunstall engineers only.

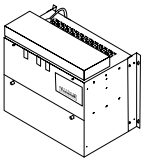
Bedeutung der LEDs für Telefonleitungen 1 - 8:
Meaning of LEDs for telephone lines 1 - 8:

1. Linie / Line
2. Durchsageverstärker / Announcement amplifier
3. Klingelsignal / Ringing signal
4. Schleifenspannung / Loop current

LED 1 leuchtet: Sprechverbindung zwischen Telefonleitung und Rufanlage besteht.
LED 2: leuchtet nie.
LED 3 flackert: Es klingelt auf der Telefonleitung.
LED 4 leuchtet: “Hörer ist abgehoben” auf der Telefonleitung.

LED 1 is ON: Speech connection between the telephone line and nurse call system.
LED 2: is always OFF.
LED 3 flickering: Ringing signal on the telephone line.
LED 4 is ON: Telephone off-hook

77 2000 00
OSY-ControlCenter



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Installationsanleitung D

OSYnet-SafetyController, Best.-Nr. 77 2100 00
Sicherheitscontroller zum direkten Anschluss an den Gruppenbus (OSYnet). Parallel einsetzbar zum OSY-ControlCenter, pro physikalische Gruppe. Vorgesehen als Redundanz zur Aufrechterhaltung der Systemfunktionen bei Ausfall des OSY-ControlCenters.

- Steuerung der Lichtruf-Grundfunktionen für eine physikalische Gruppe, gemäß DIN VDE 0834.
- Steuerung von Anzeigen an Zimmerleuchten und Displays
- Selbständige und automatische Umschaltung zwischen Normal- und Sicherheitsbetrieb
- 1 potentialfreier Schaltausgang (Wechselkontakt) zur Anzeige von Störungen
- Schaltausgang: intern: 24 VDC/60 mA, extern: 24 VAC/1 A
- Max. Stromaufnahme: 230 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage im Technikraum der Station.

A1: Montage auf Hutschiene (35 mm)
OSYnet-SafetyController **1** auf die Hutschiene **3** aufklipsen, bis er einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYnet-SafetyController **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

B Kontroll-LED (rot)

Leuchtet nicht:	OSYnet-SafetyController ohne Spannungsversorgung oder defekt
Langsames Blinken: (1s EIN - 1 s AUS)	OSY-ControlCenter steuert die Gruppe. OSYnet-SafetyController betriebsbereit (standby)
Schnelles Blinken: (200 ms EIN - 200 ms AUS)	OSYnet-SafetyController steuert die Gruppe.
Länger als 10 s Dauerlicht:	OSYnet-SafetyController nicht betriebsbereit.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich der OSYnet-SafetyController **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYnet-SafetyController, order no. 77 2100 00
Safety controller for direct connection to the group bus (OSYnet). Usable in parallel with OSY-ControlCenter, per physical group. Intended use as redundancy for maintaining the system operation in case of OSY-ControlCenter fail.

- Controlling the base light call functions of one physical group, compliant with DIN VDE 0834.
- Control of room lamps and displays
- Autonomous and automatic switching between normal and safety operation
- 1 potential free digital output (change-over contact) for fault signalling
- Digital output: internal: 24 VDC/60 mA, external: 24 VAC/1 A
- Max. current consumption: 230 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting in the electrical room of the ward.

A1: Mounting on supporting rail (35 mm)
Click the OSYnet-SafetyController **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYnet-SafetyController **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

Reset
To reset the OSYnet-SafetyController you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

B Control LED (red)

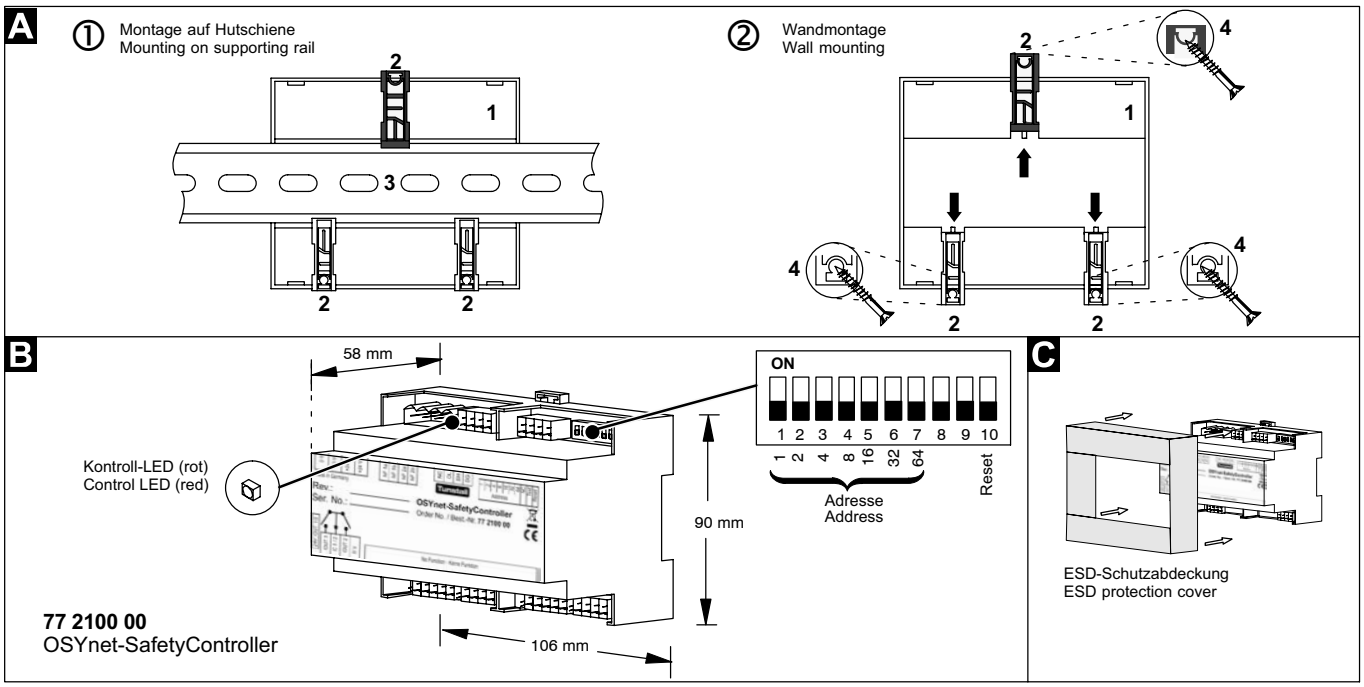
Light OFF:	OSYnet-SafetyController without power supply or defect
Flashing slowly: (1s ON - 1 s OFF)	OSY-ControlCenter controls the group. OSYnet-SafetyController ready-to-operate (standby)
Flashing quickly: (200 ms ON - 200 ms OFF)	OSYnet-SafetyController controls the group.
Light ON for more than 10 s:	OSYnet-SafetyController not ready to operate.

C ESD protection cover (order no. 00 0276 53)

After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYnet-SafetyController. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYnet-SafetyController **1** comes loose from the supporting rail **3**.



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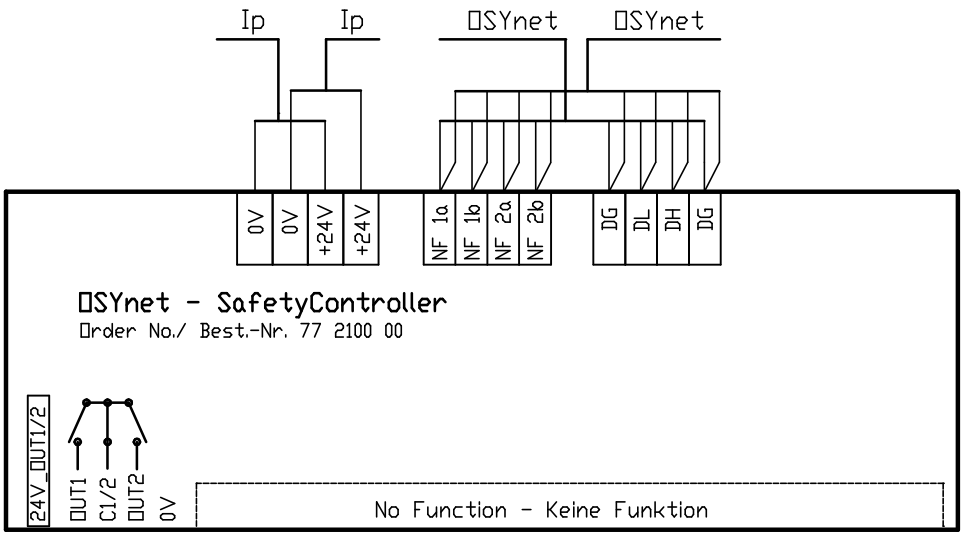
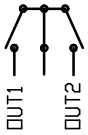
CE



- Fault message output : changeover contact
- Störmeldeausgang : Wechselkontakt



- Connection variants with internal or external power supply
- Anschaltungsvarianten mit interner oder externer Spannungsversorgung

UT 1 - closed, if ok / geschlossen, wenn ok.
UT 2 - open, if ok. / offen, wenn ok.

(Internal max.180mA for triggering a relay)
(Intern max.180mA zur Ansteuerung eines Relais)

- External power supply: 24V AC or DC/max.1A
- Externe Spannungsversorgung: 24V AC oder DC/max.1A

Ohne unsere Genehmigung darf diese Zchg. weder kopiert, noch vervielfaeltigt, noch dritten Personen oder Konkurrenzfirmen zugaenglich gemacht werden. 823ff.B.G.B.

TUNSTALL GmbH				CONNECTION PLAN ANSCHLUSSPLAN	
Aend.-I.	Art der Aend.	Datum	Name	SYlnet - SafetyController	
Gez.		15.03.07	WENDKER	Order No.: / Best.Nr.: 77 2100 00	Drawing No.: / Zeichn.Nr.: 74 1 0059 4 9 2
Gepr.		15.03.07	FÜCKING		

Product leaflets.

Electric power supply

77 3400 00	Power supply unit UPS
77 3401 00	Power supply unit

Power supply unit UPS, Order No. 77 3400 00

The power supply unit UPS serves as a conventional power supply unit with integrated uninterrupted power supply module (UPS) in a common housing. Input voltage of 115 - 230 V AC is transformed into 24 V DC, and the UPS feature ensures the supply of a connected DC user also in case of a mains power failure.
When in the normal operating mode, i.e. mains power supply, the electronic module monitors the output voltage. Starting at a load current level of approx. 12.5 A DC, the output voltage is reduced while keeping a constant current load.
This is a self-correcting output voltage feature, as the output voltage will be reactivated. Further to this, the output voltage is protected by a 15 A flat fuse "F2".
If the mains input voltage fails or when it drops to less than 90 VAC, the two lead batteries in the unit will continue to supply the connected user without any interruption.
To protect the batteries from going flat, circuit breakers will open when during the UPS mode the output voltage drops below to 19.5 V. When the mains supply voltage is active again, the system reverts to its normal operating mode.
Roughly every 15 minutes, an integrated test circuitry performs a voltage check at the battery terminals, the connections and at the circuit breakers. Upon the return of the mains supply current, the battery is isolated from the outputs, and the internal charging module recharges the battery.

Safety instructions

- Non-compliance with the safety instruction or improper handling of the unit (e.g. skin contact with live components when the unit is open) can be extremely dangerous.
- The power supply unit UPS should only be installed and operated by qualified specialists.
- Before effecting any work at or with the unit, it must be isolated from any voltage (mains or battery).
- Connection to the mains supply must be executed acc. to the valid national regulations (for Germany: VDE 0100 and VDE 0160).
- Fuse or circuit breaker must be provided for safe isolation from the input (mains) current.
- Overheating of the unit may occur when the values as shown in the technical data are exceeded. This may lead to permanent damage to the unit, and system safety is jeopardised.
- Always watch for the safe isolation of AC and DC circuits!
- Observe the general safety instructions for the handling of batteries! Sufficient ventilation must be provided to preclude the development of an explosive hydrogen-air mixture!

1. Mounting

The power supply unit UPS is designed for wall mounting. Bore holes are prepared at the housing for fixing the unit at the wall using the enclosed mounting material. A dimensional drawing is shown on the next page.
Before mounting, check the condition of the wall itself.
The power supply unit UPS weighs approx. 9 kg.

The unit must be mounted such that the venting ports are at the top and bottom.

The selected location must ensure sufficient air circulation above and below the unit. Therefore, check for minimum distance of 50 mm to walls, ceiling and other equipment. The venting ports must not be covered up. Insufficient air circulation may lead to damage to the power supply unit.

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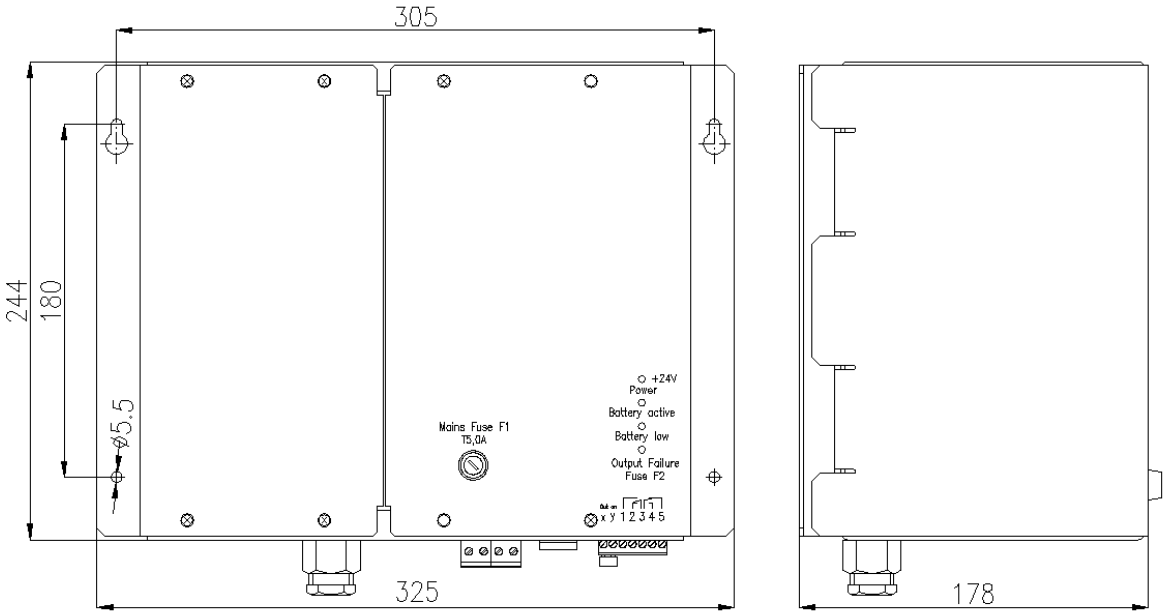
Dimensional drawing:



2. Connection

The internal connection terminals are provided as screw/plug-in clamps.

2.1 Mains connection

You have to ensure, that the mains cable is disconnected from the AC supply voltage during the following procedure:

1. Release 4 screws for the left cover and remove the cover to the front.
   Now, the terminal connection clamps are accessible.
2. Direct the mains cable through the cable duct into the housing and connect to the appropriate terminal posts as designated in the unit.
   NOTE: To simplify this process, you may pull the input connector, connect the wires as shown and replace the plug in its socket.

   CAUTION ! Check for the correct and positive connection of the protective conductor.
3. Secure the connecting cable against being pulled from the housing for example by fixing the installation cable with cable clamps.

2.2 Output terminal clamps 24 V DC / 12.5 A

The output voltage is generated via a primary pulse controller. This controller provides the output voltage of 24 V DC with 12.5 A current (for continuous operation considering all tolerance criteria). When in the normal operating mode, i.e. mains power supply, the electronic module monitors the output voltage. When the load current exceeds approx. 12.5 A, the output current is shut off (hicc-up mode) until the overload at the output terminal connections has been reduced.
This is a self-correcting output voltage feature, as the output voltage will be reactivated. Further to this, the output voltage is protected by a 15 A flat fuse "F2".

- The load shall be connected to the terminal clamps "+24V" and "0V" (provided 2 x).

2.3 Control terminal clamps x + y

The control terminal clamps "x" and "y" are used to prepare the unit for the uninterrupted power supply (UPS mode).

2.3.1 Preparing the UPS function by placing a bridge contact between "x" and "y"

- Connect the control terminal clamps "x" and "y" using the enclosed bridging contact or via a potential-free 'make contact'. The current for the bridging contact is approx. 1 mA..

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2.3.2 LED and indicator outputs 1 - 5

The five indicator outputs 1 – 5 at the 7-pole terminal block indicate the status of the unit via potential-free solenoid contacts. The current load for these contacts is up to 125 V / 1.5 A / 60 VA.

2.3.2.1 Green LED "Power" (mains supply mode and bridging contact between "x" and "y" closed)

Only green LED "Power“ is on. Contacts 3 – 1 & 3 - 5 are closed.	24 V voltage is available at the terminal clamp.

2.3.2.2 Amber LED "Battery active"

Only amber LED "Battery active“ is on. Contacts 3 – 1 & 3 – 4 are closed.	Battery mode (when bridging contact between "x" and "y" is closed)

2.3.2.3 Red LED "Battery low"

During mains failure Only amber LED "Battery active“ is on. Contacts 3 – 1 & 3 – 4 are closed.	The 24 V voltage at the terminal clamp is from the battery.
Amber LED "Battery active“ and red LED "Battery low“ are on. Contacts 3 – 2 & 3 – 4 are closed.	The voltage at the terminal clamps depends on the relevant battery charge state.
All LEDs are off. Contacts 3 – 2 & 3 – 5 are closed.	When the output voltage has dropped to approx. 19.5 V, the power supply unit will shut off (protection against totally flat battery)

After the input voltage (115 - 230 Volt) has been reactivated again, the output clamps will be supplied with 24 V DC, and the batteries will be recharged automatically.

2.3.2.4 Red LED "Output Failure Fuse F2" defective

Green LED "Power“ and red LED "Output Failure Fuse F2" are on	Output fuse F2 was removed or it is defective. No output voltage at the power supply terminal clamps.

2.3.4 Battery test

Green LED "Power“ is on and red LED "Battery low“ illuminates for 30 seconds every 15 minutes. Contact 3 – 2 is closed for 30 seconds every 15 minutes.	Battery capacity not sufficient for safe UPS operation. Batteries are automatically checked every 15 minutes. If a battery fault is detected during this test, the indicating contact and the LED "Battery low" are activated for the approx. 30 sec. test period.

The unit features an automatic battery load test. For this, the internal batteries' status is checked at regular intervals (approx. 15 minutes).
This takes place by voltage measuring while simultaneously demanding a defined load current for a period of approx. 30 sec.
If during this test the battery voltage should drop below approx. 21.5 V, the indicating contact (3 – 2 – 1) "Battery low" is reversed and this shows that the battery capacity will not sustain a UPS operating mode.
This warning will be indicated for the said test period of approx. 30 sec. or until the battery voltage has been increased to approx. 23 V . This may also take place when the battery voltage rises during a recharging process after previous discharging, e.g. in the course of UPS operation.

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This warning message is reset after the test phase and will be reactivated again during the next battery load test. This is the reason for the cyclic indication of the battery fault as described above.

The battery load test is an effective instrument for checking the true battery state. A negative result, i.e. a warning message is issued, may be caused by one or more of the following :

- Charge status too low.
- Battery fuse has failed.
- Battery not correctly connected.
- Battery is defective.
- Battery is too old, and must be replaced.

3. Commissioning

1. Connect input and output terminal connections (refer to items 2.1 and 2.2).
2. Switch on the input voltage (115 – 230 Volt).
   From now on, the connected nurse call system devices are supplied with 24 V DC.
3. *The green LED "Power" is on due to the voltage at the terminal clamps.*
   If the red LED "Battery low“ is on, the UPS function is not yet active
   (Place the bridging contact x – y).
4. *Now the power supply unit UPS is fully operational.*

4. Shutting the power supply UPS off

1. Shut off the input voltage (115 – 230 Volt).
2. Remove the UPS function acc. to item 2.3.1 (Remove the bridging contact), otherwise the load for the user circuits will be supplied through the battery until the total discharge circuit disconnects the battery.

5. Service

To ensure the safe function of the system, batteries should be replaced every 3 years - depending on the ambient temperature (Refer to diagram 1, Item 6). After 3 – 5 years, the battery capacity has dropped to approx. 60%.

6. Battery service life

The power supply unit UPS comes with sealed, service-free and rechargeable led-gel batteries VRLA. According to the EUROBAT classification, these batteries have a useful service life of 5 – 7 years. This time, however, strongly depends on the relevant ambient temperature. (Up to 20 °C: 7 – 8 years as shown in diagram 1)
If the system will not be used for an extended period of time, the batteries should be fully charged to prevent a total discharge. (Refer to item 7 "Storage")

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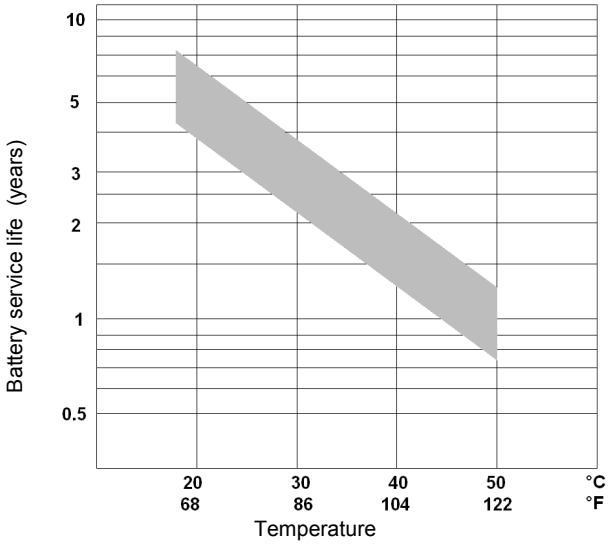

Diagram 1: Battery service life in relation to ambient temperature

6.1 Battery change

Lead batteries contain harmful toxic substances. Observe general and local safety directives when during handling and transport. For disposal, comply with local directives.

Batteries bear the risk of excessive short-circuit currents. Never create any direct contact between the battery posts and or other conductive component parts. Therefore remove any wristband, watch, finger rings or other metal objects when working at the open power supply unit. Always use tools with standard isolating handles.

Batteries may be replaced only by the same type of battery (2 x 12 V; 7 Ah). We recommend the use of the battery type BAT 24-7, Tunstall Order No. 00 0648 85. The use of other makes may create problems due to different connecting terminals or differing dimensions.

1. Shut off mains supply to the power supply unit UPS !!!
2. Release the 4 fastening screws for the left cover and remove the cover to the front.
3. Confirm the position of the old battery and after its removal, install the new battery in the same manner.
4. Make sure, the new battery is in the same position and check for the correct battery contacts. False connections may damage the power supply UPS !
5. Check for the correct seating of the plastic cover for the batteries.
6. Fix the battery position by securing it with the Velcro tape.
7. Replace and close the housing.
8. Perform a functional check of the power supply UPS!

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7. Storage

If the power supply unit UPS will not be used for an extended period of time, the batteries must **first** be fully recharged to preclude battery damage due to total discharging. (Refer to item 6 Battery service life).

- For the charging process, the power supply unit UPS shall be connected to the mains supply for at least 4 hours, and the UPS function shall be activated by placing the bridging contact between "x“ and "y“.

8. Spare parts

Spare part	Order No.
Rechargeable lead-gel battery, Type BAT 24-7 (2 ea. required) incl. plastic cover	00 0648 85
Battery fuse, internal 20 A FKS	00 0132 03
Mains fuse, front plate (5 x 20) T 5.0 A	00 0130 41
Output fuse, bottom 15 A FKS	00 0132 02
Clamp for mains connection, 3-pole	00 0211 40
Clamp for 24 V connection, 4-pole	00 0211 41
Clamp for control and indicator outputs, 7-pole	00 0211 39
Bridging contact EB 2 – 5 for control clamps "x“ and "y“	00 0223 56

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9. Technical data

Power supply unit UPS	**Order No. 77 3400 00**
Input	
Nominal input voltage	115 – 230 V AC
Input voltage range	90 – 264 V AC
Input frequency	47 – 63 Hz
Input current	4 A at 115 V AC / 2 A at 230 V AC
Start-up current surge	22 A at 115 V AC / 44 A at 230 V AC, typical
Power factor	0.95 at 230 V AC / 0.98 at 115 V AC for full load
Efficiency	88%, typical
Output	
Nominal output current	12.5 A DC
Output voltage	24 V DC +/- 2%
Output voltage in battery mode	26,5 – 19,5 V DC, typical
Calculated output power	288 W
Rippling of nominal output current	< 100 mV_{eff}
Battery capacity	7 Ah
Charge current	700 mA, typical
Bridging time at nominal current	approx. 17 min.
Overload protection power supply unit, internal	12.5 A DC hicc-up-mode, typical, automatic re-engaging
Overvoltage protection, power supply unit	26.7 – 32.4 V DC
Overtemperature protection	75 °C +/- 5°C (power diode) output voltage switched off, automatic re-engaging
Battery voltage thresholds	
Switching threshold for UPS mode	U_a < 22.5 V, typical
Switching threshold for warning before battery shut-down	21.5 V, typical
Switching threshold for total discharge protection	19.5 V, typical
EMC CE-certified	EN 55022 Class B; ENV 50204 EN 61000-3-2, -3; EN 61000-4-2, -3, -4, -5, -6, -8, -11
Safety	**EN 60950**
Output	Safety low voltage, SELV
Test voltage PRI – SEC	3 kV
Protection class	I
Protection (safety)	IP 20
Safety devices	
Battery fuse, internal	20 A FKS
Charging fuse, internal (5 x 20)	T 4.0 A
Mains fusing, front plate (5 x 20)	T 5.0 A
Output fusing, bottom of unit	15 A FKS
General	
Cooling	convection, free air flow
Permissible ambient temperature	0 ... +50 °C
Storage temperature	-25 ... + 60 °C
MTBF	100,000 hours (no for batteries)
Weight	approx. 9 kg
Dimensions (HxWxD)	244 x 325 x 178 mm
Mounting	Wall mounting
Connecting clamps	Screw / plug-in connections

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Power supply unit, Order No. 77 3401 00

The power supply unit generates a 24 V DC output voltage using 115 - 230 V AC mains supply voltage. An integrated monitoring circuitry limits the output current to 12.5 A DC nearly. Two LEDs on the front face indicate the status at the output clamps.

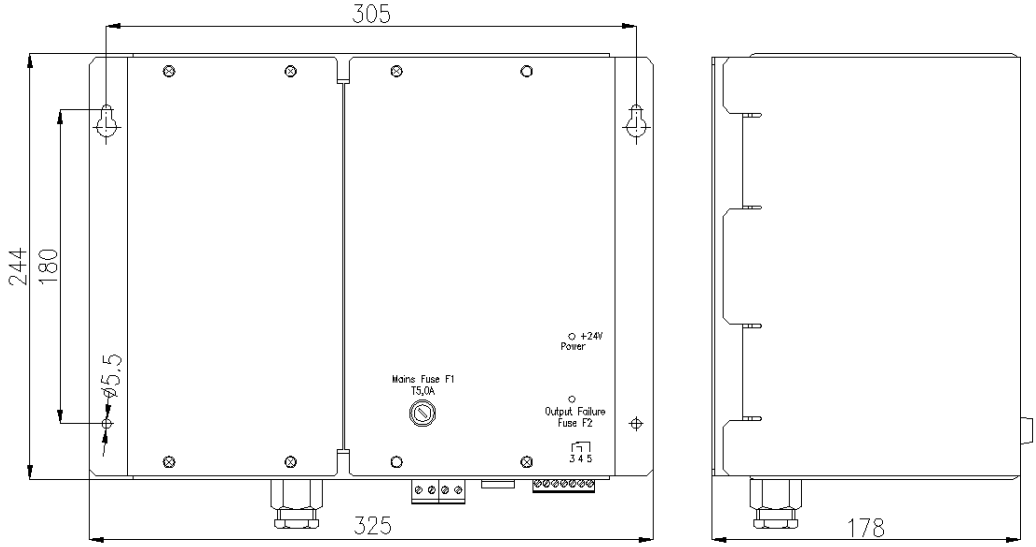
Safety instructions

- Non-compliance with the safety instruction or improper handling of the unit (e.g. skin contact with live components when the unit is open) can be extremely dangerous.
- The power supply unit should only be installed and operated by qualified specialists.
- Connection to the mains supply must be executed acc. to the valid national regulations (for Germany: VDE 0100 and VDE 0160).
- Fuse or circuit breaker must be provided for safe isolation from the input (mains) current.
- Before effecting any work at or with the unit, it must be isolated from any voltage (mains or battery).
- Overheating of the unit may occur when the values as shown in the technical data are exceeded. This may lead to permanent damage to the unit, and system safety is jeopardised.
- Always watch for the safe isolation of AC and DC circuits!

1. Mounting

The power supply unit is designed for wall mounting. Bore holes are prepared at the housing for fixing the unit at the wall using the enclosed mounting material.
Before mounting, check the condition of the wall itself. (Weight: approx. 2 kg)

The unit must be mounted such that the venting ports are at the top and bottom. The selected location must ensure sufficient air circulation above and below the unit. Therefore, check for minimum distance of 50 mm to walls, ceiling and other equipment. The venting ports must not be covered up. Insufficient air circulation may lead to damage to the power supply unit.



2. Connection

The internal connection terminals are provided as screw/plug-in clamps.

2.1 Mains connection

You have to ensure, that the mains cable is disconnected from the AC supply voltage during the following procedure:

1. Release 4 screws of the left cover and remove the cover to the front.
   Now, the terminal connection clamps are accessible.
2. Direct the mains cable through the cable duct into the housing and connect to the appropriate terminal posts as designated in the unit.
   NOTE: To simplify this process, you may pull the input connector, connect the wires as shown and replace the plug in its socket.

   CAUTION ! Check for the correct and positive connection of the protective conductor.
3. Secure the connecting cable against being pulled from the housing for example by fixing the installation cable with cable clamps.

2.2 Output terminal clamps 24 V DC / 12.5 A

The output voltage is generated via a primary pulse controller. This controller provides the output voltage of 24 V DC with 12 A current (for continuous operation considering all tolerance criteria). When in the normal operating mode, i.e. mains power supply, the electronic module monitors the output voltage. Starting at a load current level of more than approx. 12.5 A DC, the output voltage is reduced while keeping a constant current load.
This is a self-correcting output voltage feature, as the output voltage will be reactivated, if the overload current drops below its trigger value of approx. 12.5 A. Further to this, the output voltage is protected by a 15 A flat fuse "F2".

- The load shall be connected to the terminal clamps "+24V" and "0V" (provided 2 x).

2.3 LEDs at the front face

2.3.1 Green LED "Power"

Green LED "Power“ is on.	24 V voltage is available at the terminal clamps.

2.3.2 Red LED "Output Failure Fuse F2"

Red LED "Output Failure Fuse F2" and green LED “+24 V Power” are on.	Output fuse failed or was removed. No voltage is available at the output clamps.

2.4 Indicator clamps (3, 4, 5)

The clamps 3, 4 and 5 are potential-free switching contacts for indicating the current operating state:

Contact 3 – 4 closed. Green LED "Power“ is off.	No mains supply. No voltage available at the output clamps.
Contact 3 – 5 closed. Green LED "Power“ is on.	24 V voltage is available at the terminal clamps.

The indication "No mains power" may have several causes, e.g.:

- No input voltage at the power supply unit.
- When the load current exceeds approx. 12.5 A, the output current is reduced until the overload situation at the output clamps has been corrected.
- Output fuse was removed or damaged. (Red LED "Output Failure Fuse F2“ is on)
- "Mains Fuse F1“ missing or defective.

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3. Commissioning

1. Connect input and output terminal connections. (Refer to items 2.1 and 2.2)
2. Switch on the input voltage.
   From now on, the connected nurse call system devices are supplied with 24 V DC.
   The green LED "Power" is on due to the voltage at the terminal clamps.

4. Spare parts

Spare part	**Order No.**
Mains Fuse F1 (5 x 20) T 5,0 A	00 0130 41
Output fuse F2 FKS 15 A	00 0132 02
Clamp for input voltage, 3-pole	00 0211 40
Clamp for 0 V and +24 V, 4-pole	00 0211 41
Indicator clamp, 7-pole	00 0211 39

5. Technical data

Power supply unit	**Order No. 77 3401 00**
Input	
Nominal input voltage	115 – 230 V AC
Input voltage range	90 – 264 V AC
Input frequency	47 – 63 Hz
Input current	4 A at 115 V AC / 2 A at 230 V AC
Start-up current surge	22 A at 115 V AC / 44 A at 230 V AC, typical
Power factor	0.95 at 230 V AC / 0.98 at 115 V AC under full load
Efficiency	88%, typical
Output	
Nominal output current	12,5 A DC
Output voltage	24 V DC +/- 2%
Calculated output power	288 W
Rippling of nominal output current	< 100 mV_{eff}
Overload protection, power supply unit, internal	< 14 A
Overvoltage protection, power supply unit	26.7 – 32.4 V DC, typical
Overtemperature protection	75 °C +/- 5°C (power diode) output voltage switched off, automatic re-engaging
EMC CE-certified	EN 55022 Class B; ENV 50204 EN 61000-3-2, -3; EN 61000-4-2, -3, -4, -5, -6, -8, -11
Safety	EN 60950
Output	Safety low voltage SELV
Test voltage PRI – SEC	3 kV
Protection class	Class I
Protection	IP 20
Safety devices	
Mains Fuse F1 (5 x 20)	T 5.0 A
Output fuse F2 FKS	15 A FKS
General	
Cooling	Convection, free airflow
Permissible ambient temperature	0 ... +50 °C
Storage temperature	-25 ... + 60 °C
MTBF	100,000 hours
Weight	approx. 2 kg
Dimensions (HxWxD)	244 x 325 x 178 mm
Mounting	Wall mounting
Connecting clamps	Screw / plug-in clamps

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Installation

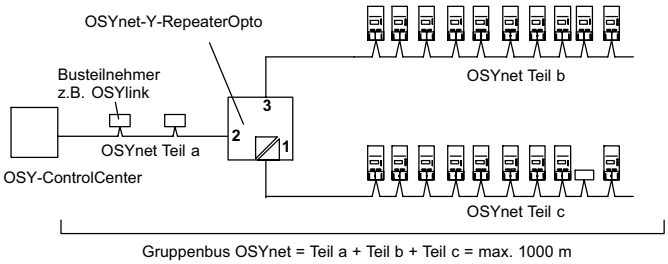
77 4000 00	OSYnet-Y-RepeaterOpto
77 4001 00	OSYnet-Gateway

Installationsanleitung D

OSYnet-Y-RepeaterOpto, Best.-Nr. 77 4000 00

Datenrepeater zur galvanischen Trennung des Gruppenbus (OSYnet). Vorgesehen zur Aufteilung und/oder Trennung des Gruppenbus OSYnet in 2 unabhängige Teilstrecken, Y-Verteilung. Einsetzbar einmal pro physikalischer Gruppe.

- Direkter Anschluss an den Gruppenbus (OSYnet) und dessen Teilstrecken (Sub-D, 9-pol.)
- Hutschienenmontage 35 mm, anreihbar
- Abmessungen (HxBxT): 85 x 25 x 83 mm
- Stromversorgung: 24 V DC (8 ... 30 V DC)
- Stromaufnahme (bei 20 °C): ca. 60 mA/24 V



Gruppenbus OSYnet = Teil a + Teil b + Teil c = max. 1000 m

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A OSYnet-Teilstrecken anschließen

Zum Schraubanschluss der OSYnet-Teilstrecken benötigen Sie drei OSYnet-Anschlussstecker , Best.-Nr. 77 0950 00.

Der Anschlusspunkt CAN Net 1 ist galvanisch von den anderen Teilen getrennt. Deshalb muss die Teilstrecke des OSYnet, die von den anderen galvanisch getrennt werden soll, an den Anschlusspunkt CAN Net 1 angeschlossen werden.

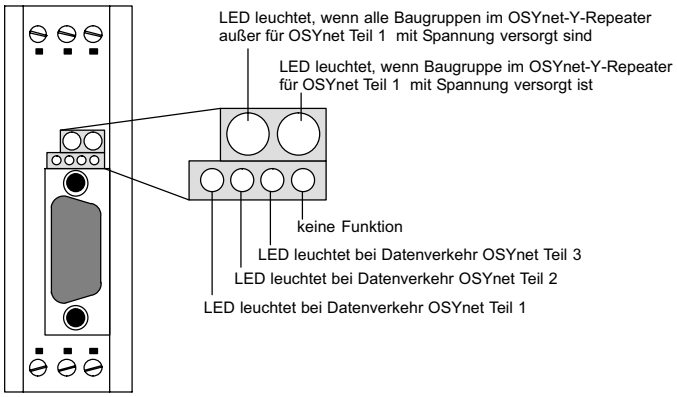
Die PIN-Belegungen entnehmen Sie der Abbildung **A**.

B Spannungsversorgung anschließen

Die Spannungsversorgung oben **oder** unten am OSYnet-Y-RepeaterOpto anschließen (Schraubanschluss).

Achtung! Die Spannungsversorgung darf nicht “durchgeschliffen” werden. D.h. es ist nicht erlaubt die eine Seite als 24V-Eingang und die andere Seite als 24V-Ausgang zu verwenden, um z.B. weitere Geräte zu versorgen.

C Kontroll-LEDs

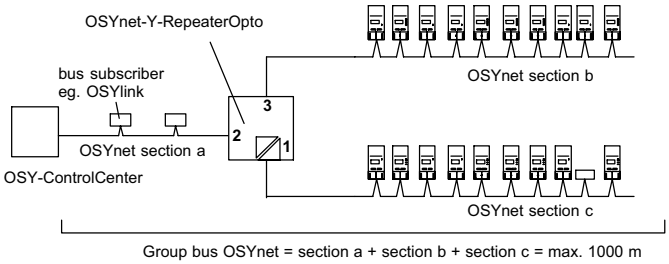

LED leuchtet, wenn alle Baugruppen im OSYnet-Y-Repeater außer für OSYnet Teil 1 mit Spannung versorgt sind
LED leuchtet, wenn Baugruppe im OSYnet-Y-Repeater für OSYnet Teil 1 mit Spannung versorgt ist
keine Funktion
LED leuchtet bei Datenverkehr OSYnet Teil 3
LED leuchtet bei Datenverkehr OSYnet Teil 2
LED leuchtet bei Datenverkehr OSYnet Teil 1

Installation Instructions GB

OSYnet-Y-RepeaterOpto, order no. 77 4000 00

Data repeater for electrical isolation of the group bus (OSYnet). Intended for branching and/or isolation of the group bus OSYnet into 2 autonomous sections, Y-branching. One repeater can be used per physical group.

- Direct connection to the group bus (OSYnet) and its branch sections (Sub-D, 9-pol.)
- Mounting on top-hat rail (35 mm), several units can be mounted side-by-side
- Dimensions (HxWxD): 85 x 25 x 83 mm
- Power supply: 24 V DC (8 ... 30 V DC)
- Current consumption (at 20 °C): approx. 60 mA/24 V



Group bus OSYnet = section a + section b + section c = max. 1000 m

Note! The complete installation of the system is described in the technical manual.

A Connection of OSYnet sections

For screw connection of the OSYnet sections you need three OSYnet connecting plugs, order no. 77 0950 00.

Connection point CAN Net 1 is electrically isolated from the other parts. That’s why the OSYnet section, that should be electrically isolated from the others, has to be connected to connection point CAN Net 1.

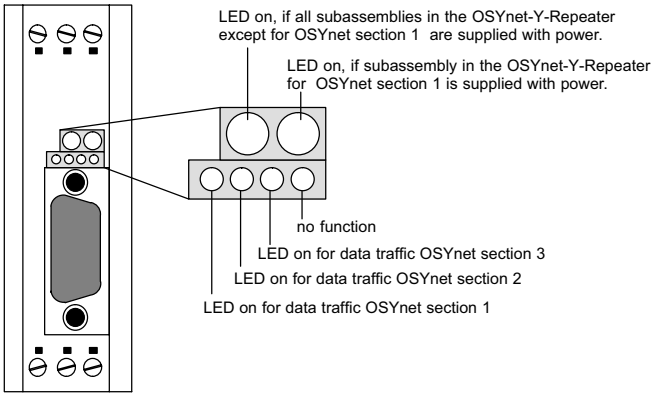
For the pin assignment refer to the figure **A**.

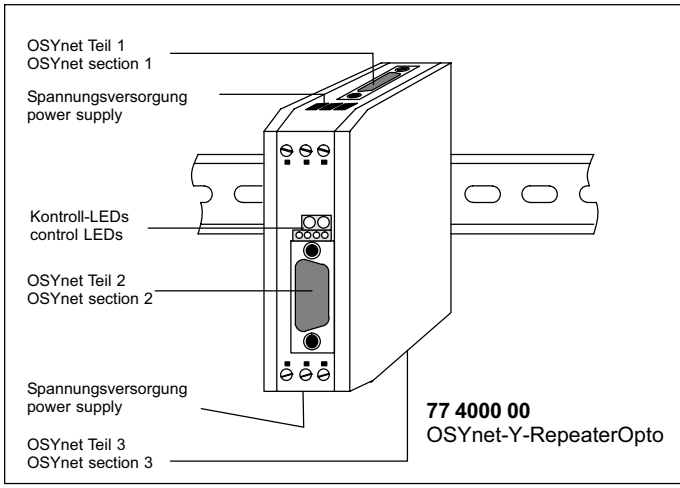
B Connection of power supply

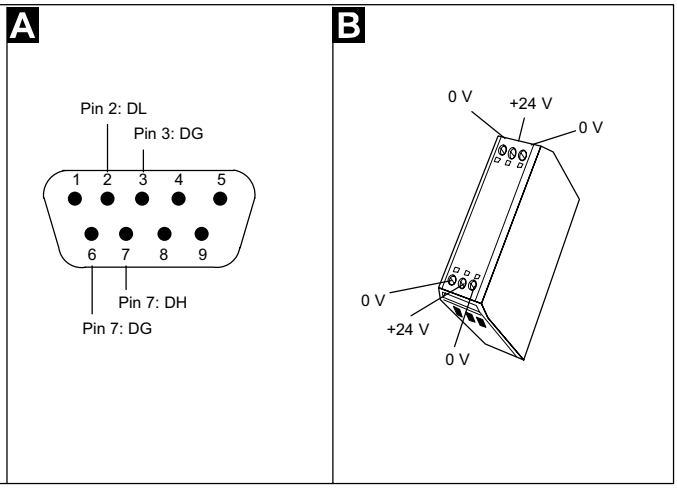
Connect the power supply cable to the connection clamp on the top **or** the bottom of the OSYnet-Y-RepeaterOpto (screw connection).

Attention! The power supply may not be connected through. I.e. it is not allowed to use one connection clamp as 24 V input and the other connection clamp as 24 V output e.g. for supply of further devices.

C Control LEDs


LED on, if all subassemblies in the OSYnet-Y-Repeater except for OSYnet section 1 are supplied with power.
LED on, if subassembly in the OSYnet-Y-Repeater for OSYnet section 1 is supplied with power.
no function
LED on for data traffic OSYnet section 3
LED on for data traffic OSYnet section 2
LED on for data traffic OSYnet section 1





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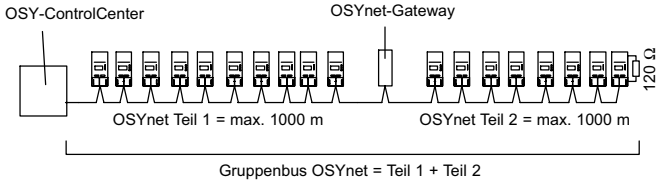
CE

Installationsanleitung D

OSYnet-Gateway, Best.-Nr. 77 4001 00

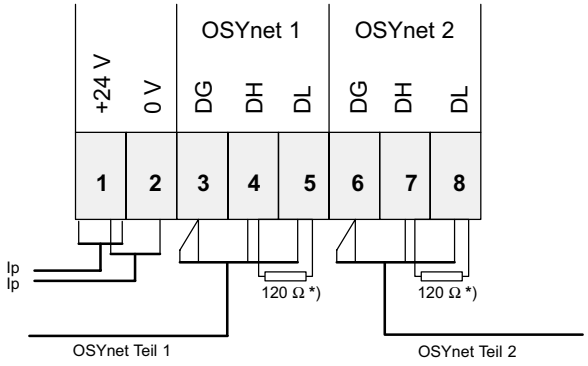
Aktives Gateway zur galvanischen Trennung des Gruppenbus OSYnet. Vorgesehen zur Verlängerung der max. Leitungslänge des Gruppenbus OSYnet um 1000 m. Einsetzbar einmal pro physikalischer Gruppe.

- Direkter Anschluss an den Gruppenbus (OSYnet) und dessen Teilstrecken (Schraubklemmen)
- Hutschienenmontage 35 mm, anreihbar
- Abmessungen (HxBxT): 105 x 37 x 35 mm
- Stromversorgung: 24 V DC
- Max. Stromaufnahme (bei 20 °C): 50 mA



Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

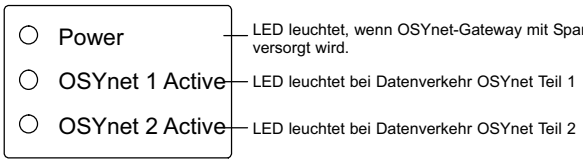
A Anschlüsse



Ip = Spannungsversorgung = NYM 2x2,5mm^2

*) Hinweis! Zwischen den Anschlusspunkten DH und DL von OSYnet 1 sowie zwischen den Anschlusspunkten DH und DL von OSYnet 2 muss jeweils ein Abschlusswiderstand gesetzt werden (120 Ohm, Bestell-Nr. 00 0040 76).

B Kontroll-LEDs

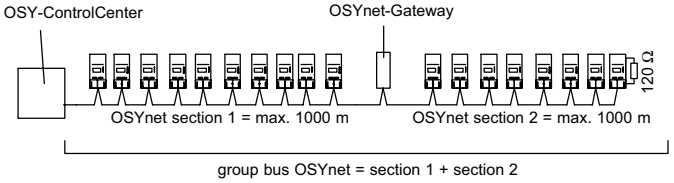

Power
OSYnet 1 Active
OSYnet 2 Active
LED leuchtet, wenn OSYnet-Gateway mit Spannung versorgt wird.
LED leuchtet bei Datenverkehr OSYnet Teil 1
LED leuchtet bei Datenverkehr OSYnet Teil 2

Installation Instructions GB

OSYnet-Gateway, order no. 77 4001 00

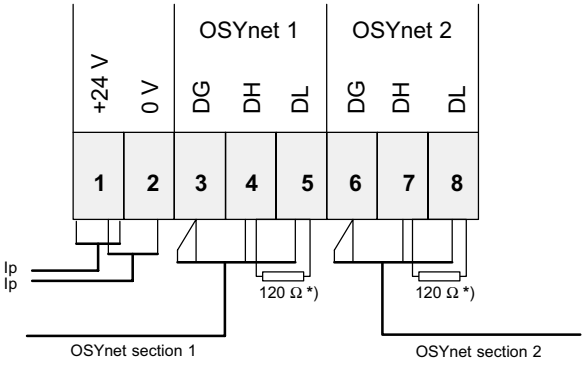
Active gateway for electrical isolation of the group bus (OSYnet). Intended for extension of the maximum cable length to additional 1000 m. One gateway can be used per physical group.

- Direct connection to the group bus (OSYnet) and its branch sections (screw clamps)
- Mounting on top-hat rail (35 mm), several units can be mounted side-by-side
- Dimensions (HxWxD): 105 x 37 x 35 mm
- Power supply: 24 V DC
- Max. current consumption (at 20 °C): 50 mA


OSY-ControlCenter
OSYnet-Gateway
120 Ω
OSYnet section 1 = max. 1000 m
OSYnet section 2 = max. 1000 m
group bus OSYnet = section 1 + section 2

Note! The complete installation of the system is described in the technical manual.

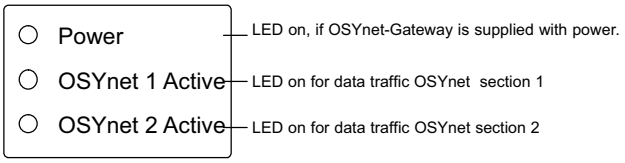
A Connections

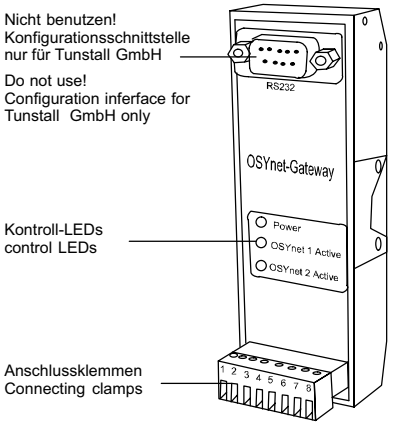


Ip = power supply = NYM 2x2,5mm^2

*) Note! The connection points DH and DL of OSYnet 1 as well as DH and DL of OSYnet 2 have to be connected by a terminating resistor (120 Ohm, order no. 00 0040 76) .

B Control LEDs


Power
OSYnet 1 Active
OSYnet 2 Active
LED on, if OSYnet-Gateway is supplied with power.
LED on for data traffic OSYnet section 1
LED on for data traffic OSYnet section 2



77 4001 00
OSYnet-Gateway

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CE

Find all you want to know about the Flamenco® nurse call system:

Flamenco® Data Sheet Catalogue

Flamenco® System Description
Order No.: 00 8812 64

Flamenco® Technical Manual
Order No.: 00 8812 60

Flamenco® Instructions for Use

The documents are ready for downloading from the Tunstall homepage:

www.tunstall.de

Tunstall PRO®

All the reassurance you need Tunstall

QUALITY MANAGEMENT SYSTEM

DQS certified to DIN EN ISO 9001 Reg. no. 56386

Reg. no. 56386

Tunstall GmbH • Orkotten 66 • 48291 Telgte • Germany
Telephone +49 25 04 7 01-0 • Fax +49 25 04 7 01-4 99
Or visit us on the Web at: **www.tunstall.de** • info@tunstall.de